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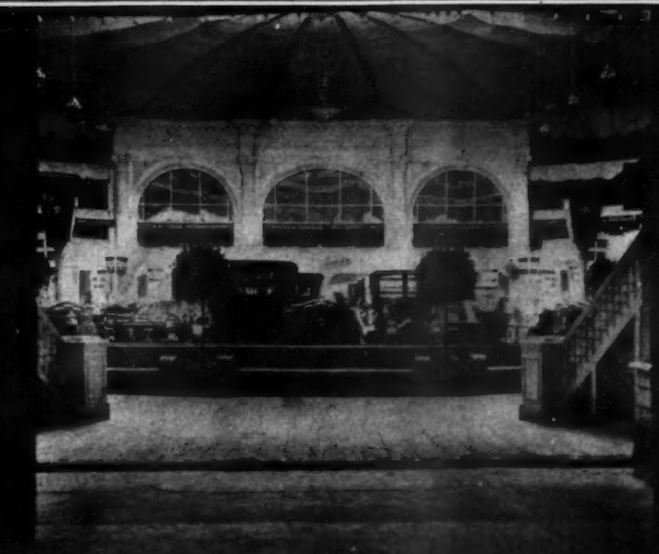
THE AUTOMOBILE

Garden Show Undeniably Gratifying

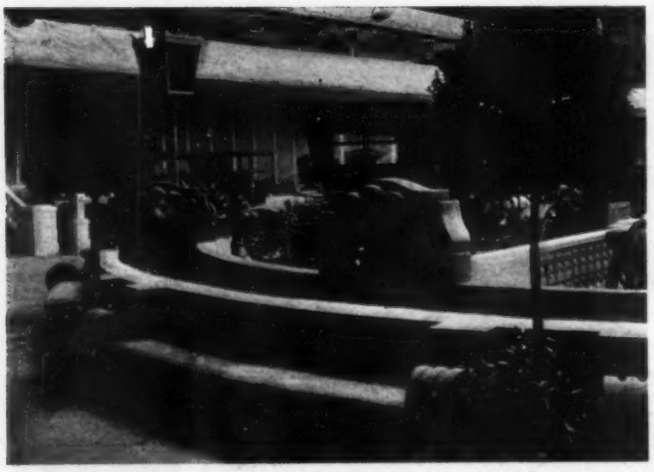


Artistic and Impressive

Attendance Indicates Interest

AMERICA'S automobile industry is in its tenth year. To the man who saw it in its swaddling clothes, noted when it began to creep, next how it actually walked, and finally experienced elation at its exultant strides, there is much that is gratifying and impressive in this ninth exhibition of motor-driven vehicles in Madison Square Garden. The chapters that will follow in automobile history will be more gradually accumulated and possibly with less blaring of trumpets and still just as adequately satisfying. While it is unquestionably true that the greater part of the firms occupying spaces in the Garden do not produce what are termed "popular" cars, the fact is plainly evident that these confidence-inviting concerns are assured of a prosperous year, in the conclusion of which there will be little, if any, of their outputs still seeking 1909 customers. The fear that is expressed by many is that the prosperity of the moment may cause undue preparations for another year, which might then exceed the figures computed in this present period of roseate hue. One's optimism should always have a safety valve at hand.

Unpropitious weather and ice-bound streets, as if the storms of the universe came to see the beginning of the show, ushered in the opening Saturday night, January 16, bringing along the whirl of the wind and the scenery of the poles. Despite all the inclemency that the weather heaped up, the A. L. A. M. show started in a swirl of glory, for the patrons of the industry were there in force to witness the very sight that some have it crossed the line of vision of George B. Selden in the year



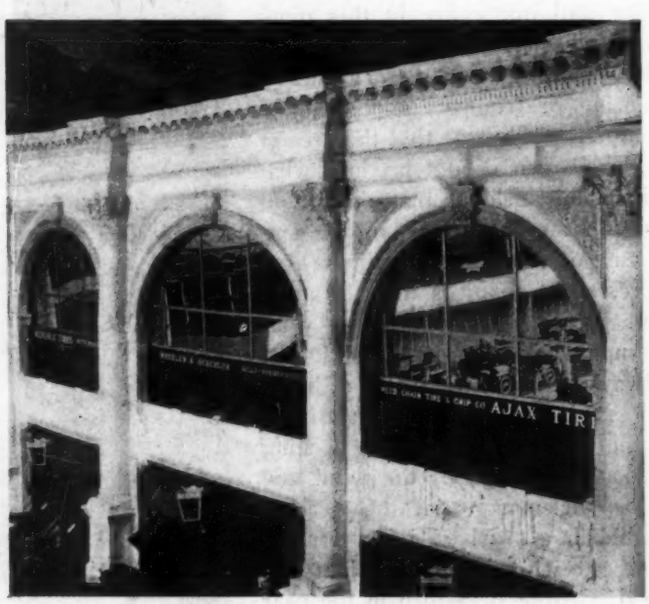
Where Tired Patrons Find Rest from Labors.

1879. This single model of that year would scarcely feel at home in the company now strewn around the big building, unless it is that age lends vigor and the right to glory in the improvements wrought.

Tremendous as the development is, as the evidence at the Garden amply indicates, it is not so great as to blind the men who did the work and stood the brunt of the fiercest battles to the fact that back of the show is the force which made it possible, and that this same force must be added to as time wears on. This force is not alone in the cars at the Garden, nor is it concentrated at the shops in which the cars were turned out. It is the combination of the cars, the shops, and the patrons of the industry.

After the first night, which was a typical first night according to the fashion "Manhattan," the patrons were of the class who come to see what the "craft" has to offer by way of improvements and as a result of the experiences of a year before, which must go down in history as a world-beater from the point of view of "hard" money and a big scare for every business but the automobile. Why the automobile should have side-stepped the drubbing is a question never to be understood by anyone outside of the charmed circle, if indeed the wise of th fraternity may not go a ltitle astray when it comes to a clear statement of fact.

Whatever the reason, laying aside all the pros and cons, it is still to be seen that the A. L. A. M. has been a power in the trade which can be looked upon as a "balance-wheel" of no mean purport. That the trade needed a "leveler" may not be realized to its fullest force, merely because the ship of fortune "docked" on time and in its hold were found all the voyagers in good financial health. Likewise it is to note that the buyers of cars, the absorbers of the product, toe the scratch with a glow of good health in their cheeks and an eye sparkling which is not the property of a fagged-out "hasbeen."



This Gives Idea of Garden's Attractiveness.

The former supporters of the industry, during the days when men of ordinary means or business acumen declined to risk a purchase, made bold to visit the haunts of their earlier exploits, and as a result it is pleasant to note that "Society" went to the show. There is no denying the fact that the automobile industry owes much to the earlier buyers of cars, buyers who paid a large price for what they received in turn, and at a time when the industry was much in need of "extravagant" methods; the extravagance, of course, coming mostly from the patrons of the industry. It is therefore a duty, as well as a pleasure, to report the continued interest of the very supporters of what was but an infant industry within ten years.

In view of the fact that the trend of the industry is adequately discussed elsewhere in THE AUTOMOBILE, it will be more to the point to confine the introductory matter to the features at the Garden as they intercept the eye of the visitor. One of the main schemes was to render the appearance of the show less crowded than was the case formerly. It is conceded that the plan was such as to lend color to the scheme. Then it was desired to prevent "bunching" of the visitors, as was the case in some of the earlier exhibits, due to placing the cars in such a way that the ones the visitors took the most interest in were in close proximity to each other.

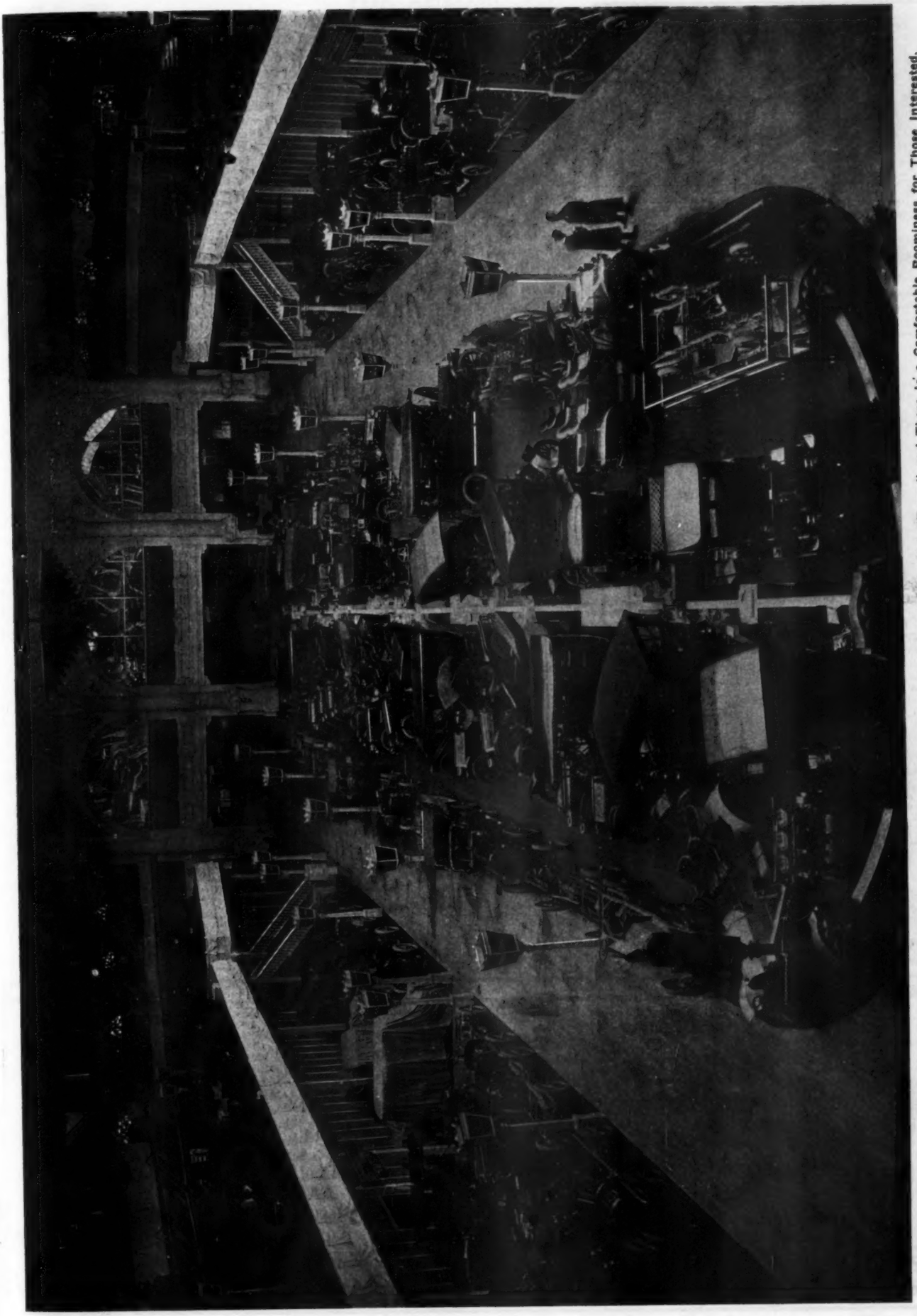
By spreading the cars out in such a way as to prevent "bunching," it was also possible to do justice to all. It is a fact that interest ofttimes lies in what may be called an obscure exhibition, and the patrons will miss the very car they would be delighted to see under the old plan. Then the arrangement this year was by way of greater chance of seeing the cars. True, it is not uncommon to hear some of the spectators express the opinion that many go to the Garden to see many more. Supposing they do, it is also a fact that they go to see the cars, and it is of the greatest advantage to enable them to have a look, and a good one at that.

The crowd has been coming since the opening night, and each day the attendance figures have increased until the Garden capacity was only obtainable through increased compression. The wise man visits the Garden early, though he seems to find that other wise men have preceded him in generous quantities. All in all, it is a reassuring show and one that marks another epoch in the automobile's progress.

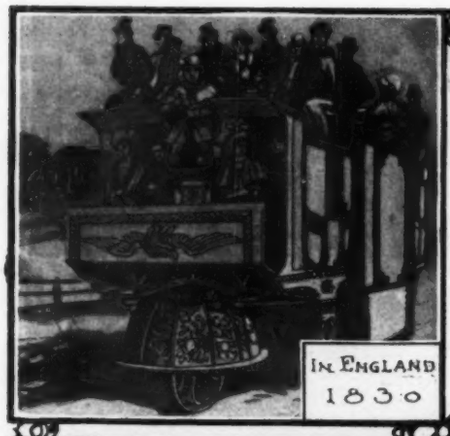
These statistics of the Garden show tell a story which will be most interesting to the man who delights in figures:

Gasoline.		Commercial.		Electrics.	
Complete cars	117	Complete cars	19	Complete cars	37
Complete chassis	28	Complete chassis	5	Complete chassis	5
		Taxicabs	3		

Bodies.		Motors.	
Seven-passenger touring	20	Water-cooled	138
Five-passenger touring	23	Air-cooled	7
Two-passenger runabout	3	Four-cycle	140
Three-passenger runabout	8	Two-cycle	5
Four-passenger runabout	10	Eight-cylinder	0
Toy tonneau	21	Six-cylinder	25
Limousine	17	Four-cylinder	116
Landaulet	8	Three-cylinder	3
Town car	4	One-cylinder	1
Miscellaneous	2	Cylinders cast in pairs	96
Clutches.		Cylinders cast separately	41
Cone	56	Cylinders cast en bloc	6
Multiple disc	56	Cylinders cast in threes	2
Expanding	22	**Ignition.**	
Contracting	10	Jump spark	125
Gearsets.		Make-and-break	20
Selective	131	**Jump Spark System.**	
Progressive	13	Double	48
Planetary	1	Dual	56
Friction	0	Single	21
On rear axle	14	H-T magneto	75
Unit with crankcase	5	L-T magneto	15
As separate unit	126	Storage battery	79
Final Drive.		Dry cells	59
Shaft	122		
Side chain	22		
Single chain	1		



For an Industrial Exhibition the Garden Was Never More Appropriately Clad, for the Decorating Is Not "Fussy" and There Is a Comfortable Roominess for Those Interested.



IN ENGLAND
1830

HAYNES
APPERSON

APPERSON
1904

What Was and What Is Now

By Thos. J. Fay

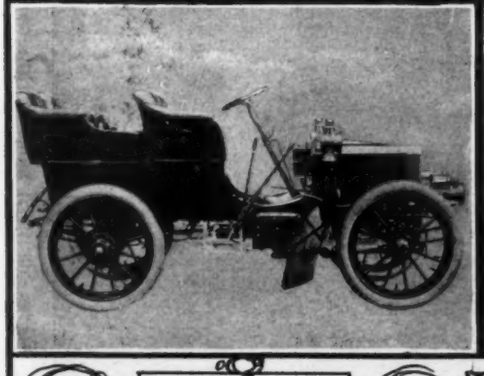
UNLIKE the Oriental, the vigor of the present is upon us, the future looks bright, the potentiality of things accomplished presses, and, if a pause is made, it is for the purpose of taking stock, thereby to locate the advantage of things accomplished on the end of the lever.

Taking the cars at the Garden as the subject, allowing that for the most part they are the product of pioneers, while they are all there assembled it will be the more easy to observe the difference between what they are and the rude contrivances from whence they came. But in order to illustrate the advances made it will be necessary to refreshen the memory with illustrations of automobiles long since reduced to inactivity. If they are captives of retirement, they are also the milestones measuring the distance which progress has made, and by contrast these same evidences of the pioneers lend zest to the comparison.

Without going back to the Noah's Ark of automobiles—this is not to be a history—it will be fair to allow that the World's Fair, held at Chicago in 1893, was at the bottom of much of the activity leading up to the automobile as it is now understood. Some of the first attempts in the direction of the modern automobile were merely as horse-drawn vehicles, in whose bowels a motor of a very crude order was concealed. From the crude beginning down to the present time progress has been the order of each and every day—like water over the great falls, the rush of improvement, one might say, has been headlong—and these advances wrought are now as a whirlpool of perfection to be witnessed at the Garden. Nor will it be possible to point out some one or two examples of fineness in a sea of things of scarcely less merit. To adequately describe the situation is to say that the level on which modern automobiles stand is broad enough for all the cars, and all of them are there.

Nor will it be fair to say all are alike; they are not all intended to be the same, and all are not from the same point of view; each is with the idea of utility along certain well defined lines. It will be understood, then, that the cars developed in planes consistent with the respective requirements, each toward the goal called perfection to which all roads lead. Some of the cars traveled down the smooth boulevard on pleasure bent; more were on the hard pavement appropriate to the centers of trade; others went by way of specialized channels; but all were heading for the common goal: the house of perfection.

Perfection is difficult to describe, for 'tis many sided, and it is possible to have the same degree of perfection under many sets of circumstances in which the intrinsic merit is defined in terms of "for value received." A glance at the illustrations as here offered will afford means of tracing back to the cars of the past, and then a look at the cars at the Garden will suffice for the purpose. In the meantime it will be at a profit to glance over the cars to be seen at the Garden, and in them locate the differences in fact. That they look different in a way, is too true to take time to say it; the real difference is below the surface, and it is a many sided difference besides. Take, for illustration, the motor in the Apperson Model M car as it is



PEERLESS

KNOX 1902

CADILLAC

From the Beginning Down to the Present

exhibited. Note that the motor case is provided with means for excluding the foreign matter which abounds on the road. The flare of the motor case is such as to leave no crevices through which the "silt" can steal. By the same device the several motor accessories are afforded a nest in which to snug, out of harm's way, yet withal within the glare of the fullest utility. Or, if, perchance the opportunity affords, be wise enough to lift the bonnet of the Autocar, and feast the eyes upon a power plant the order of which is self-contained, in which the individual cylinders are secured to an aluminum case, so made as to render the plant, from the fan in front to the universal joint of the propeller shaft, as a single unit. It is the Type XIV power plant of the Autocar make.

Pass on and look at the Columbia, known to fame as Mark XLVIII. Just to show something of the logic of events, screw off the hub cap of a road wheel which conceals the Hess-Bright ball bearings; compare them with the old "plain artillery" types of the not-so-long-ago. Glance at the spiral gears in the engine, doing service which for utility is all that man can want, and doing that service noiselessly. Think of the time past—perhaps a lapse of only five years—when it was said that spiral gears would serve but poorly in any responsible service.

With the journey scarcely under way it is to fall upon the Chalmers-Detroit, a 30-horsepower car in which the cylinders are cast "en bloc" and in which the crankshaft is with two ball bearings; as much as to say, if bearings are prone to give trouble, the less there are of them the better. In the same car it is to note the presence of a Bosch magneto, so nicely placed as to render the installation easy and quick removal assured. Then the spring suspension is worth a glance in that the rear springs are of the three-quarter elliptic order, with a scroll in the quarter, the functions of which are well understood by the autoists who have had occasion to use roads in which "waterbreaks" come at unexpected intervals of time.

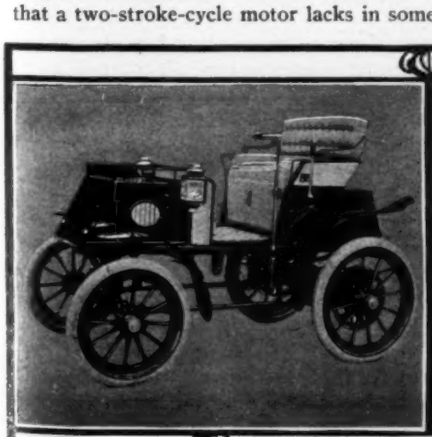
In quest of something to make a contrast, something to take the sameness out of the atmosphere, it is to stroll in the direction of the Corbin exhibit, there to note the manner in which a water-cooled motor is so devised as to have the advantages of the self-contained power plant without sacrificing the qualities which reside in the plants along lines consistent with the school of the "individual units." It will be seen that the under half of the motor case extends backward; that the motor is thus afforded the protection of the case, and then that the motor case is provided with large openings through which the vitals may be inspected and adjusted. The covers that go over the openings in the case are so devised that they can be put into place in a moment, and they will stay tight, too.

Thus far it was the fortune of the investigator to run the gauntlet of the cars in which the power plants were of the kind using four-stroke-cycle motors. Just for a change, it is to hesitate at the booth of the Elmore, a notable exponent of the two-stroke-cycle motor, the fame of which has spread throughout motordom's length and breadth. It is not so much the fact that men who merely guess say that a two-stroke-cycle motor lacks in some particular—by them not named—as it is

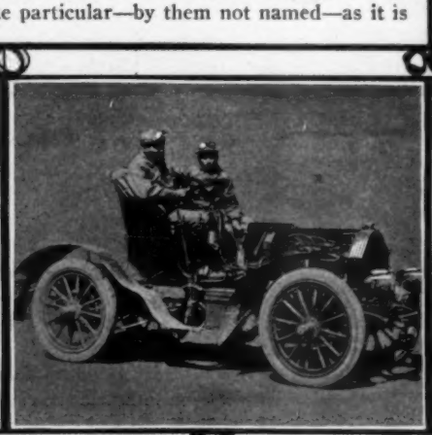
IN FRANCE 1769

WINTON 1902

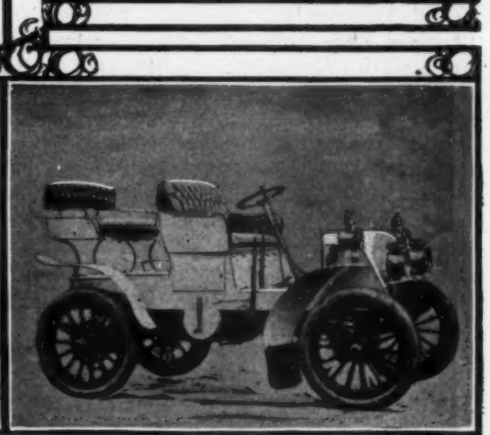
POPE TOLEDO



COLUMBIA



LOCOMOBILE



PACKARD

Madison Avenue End of the Garden as Seen at Night When the Electric Lights Lend Their Splendor.

the absence of complicated landmarks which makes one look again. At all events, the sight is one of simplicity in fact, since of valves there are none; gears and camshafts, as well as the bearings and the trinkets to go with them, of course are also absent. It is a simple plant, the Elmore—and it works.

In some cases the makers of cars are famous for the ingenuity they display in defeating mechanical incongruities. Then there are the designers who evolve distinctive features, while once in a while it is to find a company whose product is noted for its strict conformity to the conventions. Stop at the exhibition of the E-M-F. It might be said that if there is nothing unusual about this product, there is nothing unusual to describe. Walk around the circle, gaze upon the project at another angle, and what will be the conclusion? There is but one! the conclusion is that the whole thing is unusual. In this product will be found the pyramided experience of the designers of the world; rejecting ideas however good if perchance they fail to make for smooth construction. In this way, taking good advantage of things as they fall from the lap of experience, merit is assured, and it is this same virtue which is to be found in the cars of 1909, to the exclusion of the things, lacking.

But the phase changes. A look at the illustrations of some of the pioneer cars will locate the Franklin. A look in the Garden will also disclose the Franklin, and, strange as it may seem, it has undergone less change than any other type of car. True, the little Franklin of 1903, as illustrated, is not so much of a car as the modern products from the same plant, yet even so it is a fact that the resemblance is there, and it is with the air-cooled motor, somewhat altered as to detail, but holding its own in a sea of motors of the other kinds. In the modern motor, of the Franklin make, one discovers the introduction of "concentric" valves, means for quickly disposing of the products of combustion, and all the refinements in point of materials and in design as well to be had by any designer of the keenness of perception of the power behind the Franklin. Owing to the skepticism of the autoists who have hearsay evidence of the performance of air-cooled motors, let us take a ride in the Franklin "six." The side entrance of the tonneau is so ample as to lend the impression of entering some grand arcade, the feet contact with "linoleum," and as we sink into the cushions of the ample seat, it is suggestive of luxury, crowned with hand-buffed leather of the finest grade; the suggestion becomes a reality. The chauffeur, evidently pleased with life, cranks the motor—no, he starts on the spark. Off brakes, in clutch; away we go, free as a bird, careless of the future, alive to but one fact, and that is by way of full assurance of entire competence. Moreover, it is rendered plain that the "armored wood frame" is not only competent, but it is resilient.

Having returned to the Garden, in quest of further information, the eye intercepts the peculiar transmission on the Haynes Model X car, the lines of which are so good as to compel notice. The bevel drive usual in cars is here absent, and in its stead will be found the Haynes roller pinion and sprocket. Wiseacres, in the past, said it would not work, but it has been working so long and so well that it will stand a little study. Instead of the customary bevel gear, as before stated, the idea embraces the combination of a driving shaft with two integral flanges, spaced about one inch apart. At equidistant points on the pitch line, roller pins are placed and rollers are slipped over them. The engaging member is a specially devised sprocket, which by means of the teeth thereon engages the rollers and acts to the same end as a bevel gearset. The plan works exceedingly well, and of noise there is none; even the rumble, usual to bevel gears, is absent in the Haynes plan. The control of the car is along lines to accomplish the purpose, and in divers ways the car would support far more attention than can be given.

On the way up from the basement of the Garden when time was short, notice was taken of the Hewitt product. Investiga-

tion disclosed a modern truck chassis of the conventional Hewitt design, in which all is for stability and low cost of maintenance, even in the hands of the class of men to whom trucks must be entrusted. But the writer happens to know more interesting things about the same product, as, for illustration, it is a Hewitt "coal" truck which will be seen day after day in the streets of New York City hauling more coal in a given time, on a basis of a lower cost per ton mile, than any coal man ever before heard of, and the steady reliability of the service is a marvel.

Speaking of trucks, there is the Knox line, and also of the same company's product, it will be well to examine into the pleasure vehicles while at the Garden. Let us have a look at the Model O, which is a four-cylinder car of some pretence, borne out by closer acquaintance, due in no small measure to the use of fine materials coupled with taste in design, which did not defeat symmetry; nor is strength lacking. With the cover of the gear box off, it is opportune to look at the gears, and it will be noticed that the materials have a peculiar yellowish color, which with an appearance of "close grain" is a good indication of the use of "chrome nickel steel," and this is what the gears are made of. The straight-line drive to the floating-type live rear axle is at once noticeable, and along the line evidences of refinement are as outcroppings.

Of absorbing interest is the Palmer & Singer show. This company has a comparatively new line of cars of its own, and as sole distributors for the "Simplex" it is known to fame in company with pioneers. The Simplex is so well known as to require no heralding at all. It was a Simplex that held "fourth" place in the first Vanderbilt race, driven by Frank Croker, and originally Simplex cars were intended to defeat the importation of the better makes of foreign cars by the simple process of actual superiority at a lower price. When the Palmer & Singer interests took hold, it was found that the market was far greater than the output of the builders, and the Palmer & Singer was added in order to be able to supply a greater proportion of the demand. The Skimabout, of the P & S line, was quickly snapped up by the buyers of cars, and later the company added the "6-60," which as the characters indicate is a six-cylinder car, rated at 60 horsepower.

Speaking of the Vanderbilt race it reminds one of the Locomobile, and the performance of the "racer" in the last race. In the meantime it will be a good idea to go to the Locomobile exhibit, and see what a year has done for the company. This is one of the companies which held to the side-chain drive for years, and it will come as a surprise to many to learn that the company now has a "shaft drive" car; a 30-horsepower model, embodying all the 1909 features known to be of value in this type of car. One point of unusual merit lies in the use of distance rods as they ordinarily obtain in side-chain drives, and in this way parallelism is maintained with the same degree of certainty as is the case in the side chain drives. Before departing from the Locomobile, it will be a good idea to note one or two of the innovations that go to render flexibility assured. The spring perches will be found free to rotate, and the springs will not have to sustain any part of the torsional load. This may not seem to be a matter of great moment, yet even so it is just such matters that have to be looked after if it is desired to keep to the shaft drive and not put up with "pinching" of the members that hold in their makeup what is known as relative motion. In the new Locomobile all these matters were given the ample attention they deserve, and the result is, as one would suppose, the shaft drive is quite as free from objections as any car can be.

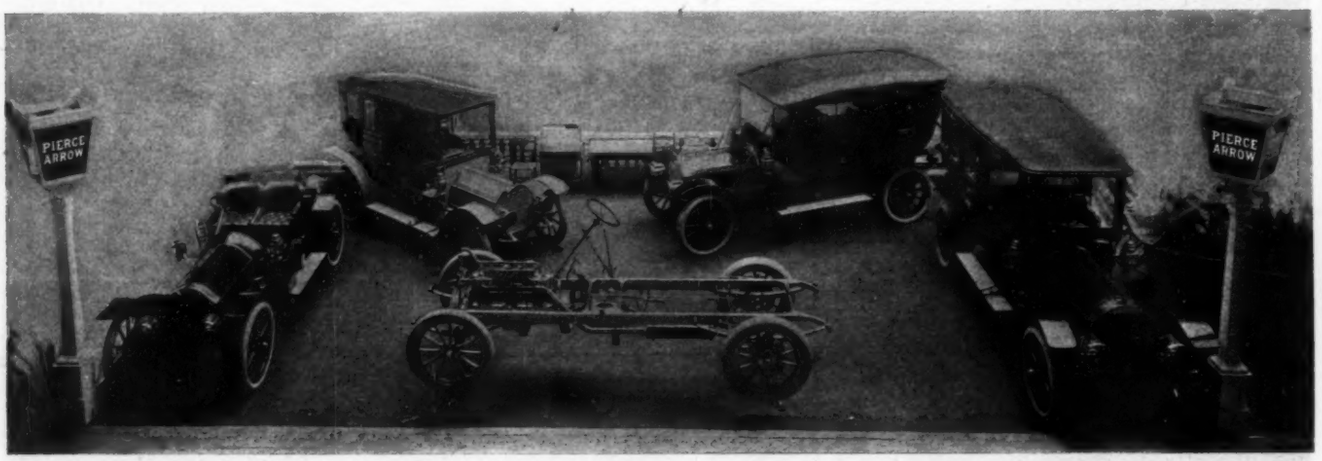
In the same way it might be observed that the Lozier products are now of the shaft drive exclusively, and in the new cars of the line there is the absence of torsion rods. When the car is loaded the propeller shaft is horizontal, and the use of alloy steel is in evidence. But the most important detail of the Lozier

The Garden at Night as Seen When Looking Toward the East or Fourth Avenue End of the Building.

is yet to be noted: look into the crankcase and there note the shaft. It is of the ball bearing type, and it is not new. This type of crankshaft has been in use on Lozier cars for some years, and, contrary to the "blatter" of the mob, it works fine. Whether there is any chance of ball bearing crankshafts giving trouble, if the workmanship is poor, is another question; the Lozier work is the kind which augurs for success anyway.

By way of a digression, let us take a trip to the "Giant's Despair," sit on a boulder by the roadside, get a breath after the tedious climb, await the passing of events. In the distance the soft purr-r-r-r-r of a powerful automobile will be heard, it is coming nearer—nearer-er-er. The grade is masterly, the road is not wide, the conditions are such as to make one imagine that if an automobile should come that way, the manifestation will be as a chug—a long interval—another interval—another chug. The time for dreaming is short, the purr-r-r becomes more pronounced, the car bursts into sight; it is there, it is gone. Matheson! Better stop at this stand at this show.

Instead of returning to the Garden, let us go to the plant of the Packard; it is in Detroit. To tell how big it is in ordinary terms means so little that an attempt will not be made. The Society of Automobile Engineers was conducted through the plant last Summer, and after walking for the better part of a half day the plant was half done. True, it was the idea to be



The Display of Pierce Arrows Was Effective and in Keeping with that Well-Known Company's Reputation.

able to see things as they are done at the Packard, and the opportunity was adequately afforded. The output may not have been quite $10,000,000. The manner in which the task is performed is quite as leisurely—on the surface—as anything can be. To the skilled eye, it was the masterly system of the company that made haste without making waste. The laboratory in which the metallurgist ascertained the qualities of the materials used in Packards was probably the best indication of the real merit of the cars that could be found, especially since it showed up in the product all along the line. But if the laboratory was complete, the designing office was so very extensive and so well equipped as to leave nothing to be desired. Then there is the road performance of the cars of this make to be taken into account. As one English visitor put it: "We think our cars are noiseless performers, but as you say in 'Yankeeland' there is one more guess coming." The Packard "18" at the Garden is the "little one" of the family.

If we are again in the Garden, it will be worth while to look into the question of gasoline tanks, just for a moment; they once were troublesome in more ways than one. Some are under the drivers' seat and gravity furnishes the force which impels gasoline to the carbureter. More are at the back of the chassis frame; securely fastened and well up out of the way, when the cars are backed into the curb. Mostly all are of copper. They are sweated and riveted in a manner to assure tightness, and the "filler caps" are quite large. It is also true of a number of them that a reserve supply is at hand, in that all the gasoline will not feed out unless a valve is adjusted to allow the reserve to reach the carbureter. This is a good idea, and it is one to be encouraged by autoists. Then there is the question of lubrication to be taken into serious account. Take the Peerless for instance; examine Model 19. In the crankcase will be found a storage, cast integral, in which a gallon or more of lubricating oil is stored, and by a suitable mechanical means the flow of the oil is regulated in such a way as to assure, (a) profuse lubrication of the bearings, (b) the return of every drop of oil to the place from whence it came, there to be cleaned and re-used up to the limit of its ability. But the oil will not be re-used so many times as to be reduced to inability. Enough is used so that in replacing the same the lubrication value of the whole is kept up to a high state of efficiency. The gear-driven oiler, for the purpose, is on the half-time gear shaft, and it has the facility of not requiring any attention at all. While the Peerless is in sight, have a look at the crankshaft, for it is of special steel, drop-forged, machined to grinding size, and it is then ground to size so close that even a man of good skill cannot find an error, using a micrometer for the purpose. This is not unusual, it might be said; but it is. Only the best cars can claim that the crankshaft is "true," that the journals are not out of round, and that the centers are all to a common axis. Just by way of indicating the close attention to detail which actuates the Peerless designers, have a look at the ignition system, and note the care with which the wires lead to the plugs, and the manner in which the terminals are completed. Autoists will be willing to believe that such matters are a good index of the fair way in which all the work on a car might be done.

The question of noise is also one to concern the autoist, since it is true that the same noise, if it is extinguished, may be at the cost of quite some power of the motor. That this follows as a matter of necessity is hot believed. A look at the Pierce Great Arrows will dispel the illusion, if it is true there is one. In this car the motor is noiseless in its performance, and the loss in the process is eliminated. The manifold of the exhaust is so made as to set up vortices, and as a result the exhaust is as a continuous efflux, thus aiding in the scavenging of the motor, even with a saving of the energy available rather than at a loss. The muffler has little work to do, and it manages its part quite effectively. The new Pierce cars as they will be available for 1909 are with an improved gearset, employing four speeds, selective, and materials such as were the dream of autoists but a few short years ago. From the art point of view, a look within one "Great Arrow" will disclose a finish in Louis XVI effect, which for tone is worth going a long way to see.

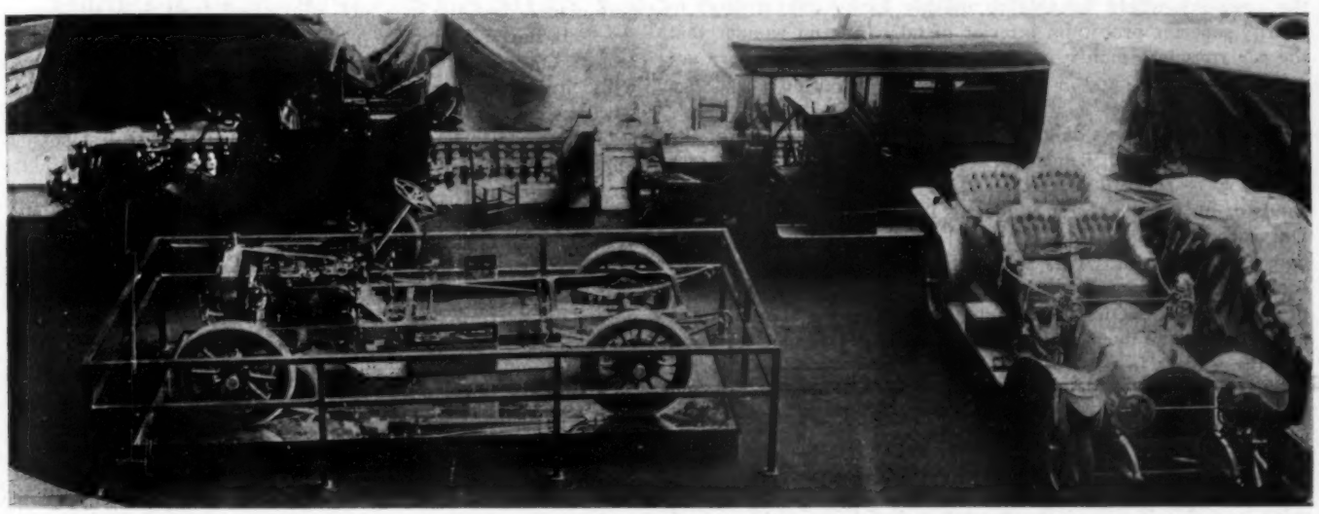
Last year the cars were with brake mechanisms of superior ability, but it is true of them that they had too little surface for arduous service. This year the question is on a better footing, in that the brake surfaces are ample, while at the same time the mechanical motions are quite up to the highest standards. Take

the Pope-Hartford as an illustration; the brakes are of greater diameter, wider face, better linkages, and the result is the cars will respond to the brakes in a way not to be easily explained. To begin with, it is not desired that brakes should skid the wheels; then it is assured that the car will be stopped in the shortest possible distance, if it is true that the brakes will lend all the pressure possible to apply without skidding the road wheels. If the shoes have not the requisite surface they will afford a "fierce" action and the good effect desired is out of the question. In the Pope-Hartford the same reasoning was made to apply to the clutch, with the result that the clutch has a wider face than formerly and the service rendered is quite as perfect as the designers found by experience should be the case. In other ways the Pope-Hartford is modernized; a difficult task to be sure, in view of the degree of perfection which was one of its fair claims. One finds a very nice redesign of the chassis frame, in which a "goose-neck" spring hanger lends charm and strength, while the springs go for easy riding qualities.

While the name is up, it will be a good idea to look at the Pope-Toledo, therein to note the extent to which this well-known product has kept pace with time. The first thing to attract notice is the crankshaft; it is of the ball-bearing type; that it is retained is an assurance of the fact that it works. This company was never of the class to keep a thing a moment after its competence was questioned. This is pleasant to note in view of the fact that some designers say ball bearings do not really have to be used in crankshaft work. They do not go so far as to say that the ball bearings are out of place, nor will they be able to show that they give any trouble which cannot be traced to outside cause. On the other hand, motorists can well afford to encourage two things in automobiles. One of these is good oiling and the other is ball or roller bearings. Anything which will enable a motorist to go about his business on the road without the fear of "frozen" bearings is a good thing to encourage. In the first place, if a bearing is "frozen," it ruins the same; then too, it discommodes the motorist, and besides it ruins the materials of the crankshaft, or whatever it may be. It is in such cars that one will look for the peculiar tint of alloy steel; it is there, in the Pope-Toledo.

Thus far in our journey through the Garden little or no attention was paid to the sizes of motors used. In a way it is true the matter was as a dream, but it is necessary to pay specific attention to a matter of such great importance as the sizes of the cylinders. Under the circumstances, it will be prudent to begin now. In the Royal, the one of the 48-horsepower motor has cylinders with a bore of 5 1-2 inches. It is a four-cylinder motor and according to the A. L. A. M. formula the power would be: $\frac{5.5^2 \times 4}{2.5} = 48$ 2-5 horsepower.

In a word, the cars at the Garden are rated in accord with a prearranged plan, and the result is that they relate to each other in a manner which allows of a comparison, especially when it is desired to note the relation of power of the motors to the weight of the cars, and in this way ascertain if the road performance will accord with the needs in any given case. This is not to say that the gear ratio or the power for weight should be the same for all places. In a matter of this sort it is necessary to take into into account the roads, and the gear ratio should be in accord with the needs. All the cars are so devised as to enable the makers to adjust for road conditions, and there is no argument in saying that a car is a superior hill climber, if the power available is the same as in some other car, unless it is that the gear ratio is adjusted to suit hill work. Before leaving the Royal, let us look at a few of the points of more than the usual note, and by so doing lend to the impression that this company has done its share to maintain the status of the A. L. A. M. In the Model M of this make the transmission is of the four-speed selective type, and the workmanship is up to a standard which lends character to the car. The wheelbase is long, longer than last year, and the general appearance is much enhanced, although the Royal was never of the short wheelbase class. In the matter of brakes, this car is so well equipped as to be noteworthy.



At the Packard Stand an Array of Cars Notable for Constructive Features and Fine Finish Occupied the Floor.

There are three sets of brakes, two of which are on the rear road wheels and the third is on the propeller shaft. The Royal is also provided with a self-starter as an extra in every case in which the autoist thinks he would like to run his own car.

From the relatively high priced car, as above referred to, to the Selden is a big drop in the matter of price, but it is not so sure that the quality of the car can be reduced in anything like the same ratio. In other words, it is but to look at the Selden and to note a full filedged automobile the price of which is $2,000. On the road it is a fact that the Selden is a consistent performer, which is not to mention the fact that it is especially free from noise, under all fair conditions. This is probably due to the skill of the designer, E. T. Birdsall, one of those who succeeded in making machines run at high speeds and not make a noise. This is due to the right distribution of the metal, having in view the fact that noise is not wanted, and that it is worth while to spend a few pounds of metal in the right place to accomplish the result. The end is that the crankcase is not so thin as it could be from the strength point of view, the gearcase is a little more stocky than some cases are, and means are provided to keep a film in all the little bearings in and about the chassis, thereby to prevent rattle, which also assures long life and small loss of power. It may not be generally appreciated that noise is at the expense of power; it is even possible that there are autoists who do not realize that if a spring bends, power of the motor is absorbed in the process. But the de-

signer of the Selden knows about such things, and in the Selden car all these little matters were gone over.

To show the difference in price on a basis in which the difference in quality keeps pace, it is but necessary to examine the Stearns cars, one of which costs $4,600 and is rated at 30-60 horsepower. In the first place the Stearns is intended for the man who cares to pay for the best car that money can buy, in which every detail is on a plane such as would make it utterly impossible for a man of ordinary means to think of paying the bill. In this car it is optional with the purchaser to select either the shaft, or the double side-chain drive, and in a dozen ways the car is one of luxury and refinement. The eye of the skilled engineer quickly locates high priced annular ball bearings all through this car, and the material has the ring of close grain, great toughness, resiliency, and just the characteristics which are present in the product, capable of doing the work for years, with but small chance of even temporary trouble. In the shop where these cars are built it is well worth taking into account the fact that the highest quality—chronometer quality—is what is aimed at, and it is no stretch of the imagination to say bull's-eye accuracy is the result. The extent to which this matter is carried is shown in the simple fact that a "test coupon" is cast on every aluminum casting entering into a Stearns and the company would be able to quickly locate any attempt to "burn" superior proofs on inferior metal. It is no wonder that the car runs into money in comparison with cars which are not so highly powered, and in which the "finish" is not advanced to a "chronometer" basis.

But the subject gets dull, so full of interest is it, which for the sake of contrast will demand a shift to some car of a different school, so to speak. To cast about is to quickly find one at the hands of one of the oldest builders. Take a look at the Stevens-Duryea; it is with a self-contained power plant, in which the flywheel is in front. This is the aluminum motorcase extended back, without change in contour until it makes almost a tube of symmetrical section, the strength of which is assured on a high plane. The flywheel in front gives the maximum clearance, and the leaders in this school of design have good reasons for bolstering up their claims of superiority. The self-contained power plant is with clutch and transmission gearset all in one housing, and the whole mechanism is adequately protected from dirt, and road inequalities cannot upset the alignment of the bearings. Of course, there are various ways to accomplish a thing, and this is one of the ways that time has put the seal of approval upon. In a large measure the success of the car is due to the fine materials used in all the parts, and on the whole it would be pleasant to remain around the stand and admire the details, in view of the nice features of design to be seen.

Magnetos Are the Mainstay for Ignition Service.

For fear it might escape, let us go to the Studebaker exhibition and have a look at the Bosch magnetic spark plugs used instead of the other well known ways. In this scheme it is easy to see that theory has a chance to expand, and the aim is to depart from some of the fallacies which cling like a specter to the methods of the past, as they are used in some cases. In this case the Bosch magneto is used as formerly, but the magnetic spark plugs serve instead of the ordinary kind. The spark plugs so made are self-contained, and a timer of the ordinary description is done away with. The plan has the benefit of a good long tryout and is much liked by the users of the cars. There are a lot of other things to be looked at in the Studebaker which will have to be left for some other time. It will be of interest to go to the Thomas booth and while there look at the six-cylinder cars which made the "Thomas" famous. It will be well to go prepared to take off hats to the "sixes" as they emanate from the Thomas plant. Past performances will influence the situation more than a little; it was a Thomas which won the New York to Paris (won in a walk), and it is also true of the same cars that they have always received favorable competitive mention. Take the "6-40" as an illustration of the latest efforts of the company. The barrel type crankcase is the first thing to greet the eye of the man who knows the scenery. Then, it is to note that the alloy steel crankshaft is centered on annular ball bearings, and the workmanship is a sight well worth going to see. The clutch is of the regular Thomas design in which three (cork insert) discs are used, the same clutch that served in a Thomas in the run around the world. From the clutch to the gearbox the eye quickly takes in a three-speed gearbox of the "selective" type. The gearset is housed in the rear axle, and the axle construction is a modern creation. The springs on which the chassis rides are of the full elliptic (scroll) type, now regarded as a Thomas feature, the value of which cannot be overestimated. In this car the center of gravity is very low indeed, and the road performance is thoroughly good. In a car such as this the question of price is not to be discussed at all. Buyers of Thomas cars are of the class who want the best and they know it is only to be had on a basis to allow the maker to cover the business risk in a manner to leave no chance for an excuse to trim down on the quality.

Grand-stand Play of Six-cylinder Cars.

Before closing out what is more or less of a panorama, it will be important to pay a visit to the Winton, noting at the first glance that the cars are all "sixes," and then to observe the "self-starter," which is a distinct advance on trying to "spin" motors of great power. In some cases the same cars are fitted with tire-inflating equipment, and together with all the other advances which go to make Winton fame, renders the Winton exhibition one to linger in, and the cars, of the greatest possible interest. Winton—the name—is historic, and the cars are the logical outcome of a plant which has always been known as "producers," not only of automobiles but of ideas. The new Winton "six" is rated at 48-horsepower and is the same Winton that established the record for low cost of maintenance last year on all the cars produced, which is quite different from noting the performance of a single car under special conditions.

"Steamer," you say; want to look at a steamer. The White Company will be glad to show you. The White booth has two models, both the same in point of the power plant excepting in one particular; the power rating is not the same. On White steamers of the present time it is to note the use of the "joy" valve gear, the value of which is not to be stated in ordinary terms. With this valve gear displacing the "Stephenson," the performance is not only far more flexible, but the economy is much improved as well. Model O is the new (somewhat smaller power plant) car, and it is in every way up to the White standard of excellence.

Body Work Represents Plain Elegance.

Before leaving the show, let us stand at some point of vantage, there to look at it as a whole. What is it that strikes the mind's eye? Is it not the fact that all the cars look different? When we say the cars at the Garden look different, then to explain the manner of the difference is the natural sequence. To render the explanation potent is quite another matter. In the first place it is the bodies that we see, and the difference must reside in the fact that the body work has moved up. It is the difference as between costumes. If they are the product of "Worth," it is one thing; but if they are from some establishment noted for lack of style, it is quite another matter. In a word, something has happened to the 1909 automobiles; they certainly do look different. The best explanation of this lies in the fact that it is not the cars that have changed so much as it is the fact that the designers have moved up. We see the result in the cars, it is true, but it would never be there were it not for the fact that the designers have arrived at a point in their mundane career when to do things on a big scale is the natural bent. This year of 1909 is the year of the "natural bent"; in other words, it is the year in which the ambitions of the men of the high ideals have been cut loose from the environs of the past; the past in which the influences of "horsemen" lent zest to fallacies.

Peerless Exhibit, Showing Chassis, Roadster, and Touring Cars, Backed by a Splendid Limousine.

SIMPLICITY AND STABILITY IS KEYNOTE OF BODY WORK

NOTHING short of good bodies will be found on the chassis at the Garden. Even so, there are differences as compared with the practices of former days. In the first place, it is not now possible to go into the Garden and find a single example of a very inferior chassis hid under a very fine body. But it is possible to go into the same Garden and find a fine chassis sporting a body of no great pretense. In a word, this is the year of standard chassis work and plain body work in the main. Still, this plain body work is with lines; straight lines, they call them.

They are good body propositions, in the main, and free from the strictures that went with the average body not so long ago. The framing of the bodies at the show is the kind of framing that will stand the "gaff." Then there is a decided difference in weight in favor of the 1909 body work. This in itself would be as an incident of no great moment because it is of the greatest importance to distribute the weight in a manner to assure a low center of gravity.

In the work to be seen at the show the center of gravity is held low because the framing is heavy enough to stand and the superstructure is designed for low weight. There is no doubt of the fact that a light framing in the superstructure will last longer than heavy work. It is out of the question to have the superwork heavy and be sure that the body will hold together. The underwork is not so stable as to afford a platform for heavy superwork, and while it took some time to arrive at the facts, the cars at the Garden adequately conform to all the requirements in the light of experience.

Prior to the proper disposal of the details of design along lines taking into account the distribution of the weight it was not uncommon to see body work in which the panels were "checked" rather too soon. Indeed, it was not uncommon to discover this "check" trouble after the very first time the cars had a day under conditions of inclement weather. Part of this trouble was due to other causes, but much of it could be traced to the strains set up in the framing.

Some of the earlier examples of body work included a large use of putty, and it was not uncommon to discover "plaster of Paris" as a lining behind the panels. All such evidences are gone; the work is on a good basis, and it is a pleasure to be able to say that it is now "good form" to use a plain body on a fine chassis just as a silver case ofttimes encloses a fine chronometer. Why not? Is it not the body that goes out of style? If the chassis is of a good design, and if the materials are good as well (and they are in the cars as they can now be had), it will be a very simple matter to change the body at will, if, perchance, the same drops out of step later on with the prevailing styles, which is a likely contingency.

The "straight line" effects as they are to be seen on about all the cars this year certainly do please the eye, for the time being at any rate, and it is the prevailing opinion that these effects will stand better than the "swanlike curves" of the past. Then, it is of the greatest advantage to have wide openings, and it is a fact that the cars of the year are with side entrances wider than they were even last year, which was a year of reform.

In relation to the ventilation of the closed types of body work, it is to note some reforms by way of maintaining a certain purity of the air. There is more evidence of provision by way of preventing the upheaval of dust on the road. These are all questions that are, and should be, discussed in connection with the body work, and it is the bodymaker who looks after them in nearly every case. Even slight differences in the contour will effect this question, and if the bodymaker does not mend the defects it is a moral certainty that the chassis maker will not have time to do anything about it. Even the design of the mudguards is a body question, and it is much to the credit of the bodymakers that the present shapes of mudguards are in vogue. There is probably no one reform that is so pronounced this year as that of the mudguards; as it is, they are all to be desired, and it is assured that the question of any further advances along these lines will be difficult.

As respects types of body work to be seen at the Garden, it is almost enough to say there are none left out. On the other hand, there is no doubt of the fact that there is a decided increase in the number of landaulet types, and they are looked upon as fitting for both town car and taxicab work. In town car service it is not uncommon to see the upholstery in broadcloth, whipcord and, in some cases, goatskin. Some of the examples are works of art, more are on what might be called a standard basis, and in a very few cases it is as "show," with little to back it up. Of course in the latter cases the cost of the body is low, and in full accord with the value.

In taxicabs the interior is on a very substantial basis, using hand-buffed leather for the upholstery, and it is safe to say the work is on a basis to assure long life, at a low cost of upkeep, which is the matter of the greatest importance. Limousine body work is at the Garden in considerable force; this class of work is on a basis that can be set down as stable, and the interior finish is tasty. In limousines it is not uncommon to see the finer grades of broadcloth, a good display of whipcord materials, and goatskin is much in evidence. Colors are in some variety, and there is quite an attempt at ornamentation.

Pierce Limousine Louis XVI Style Embodies Art.

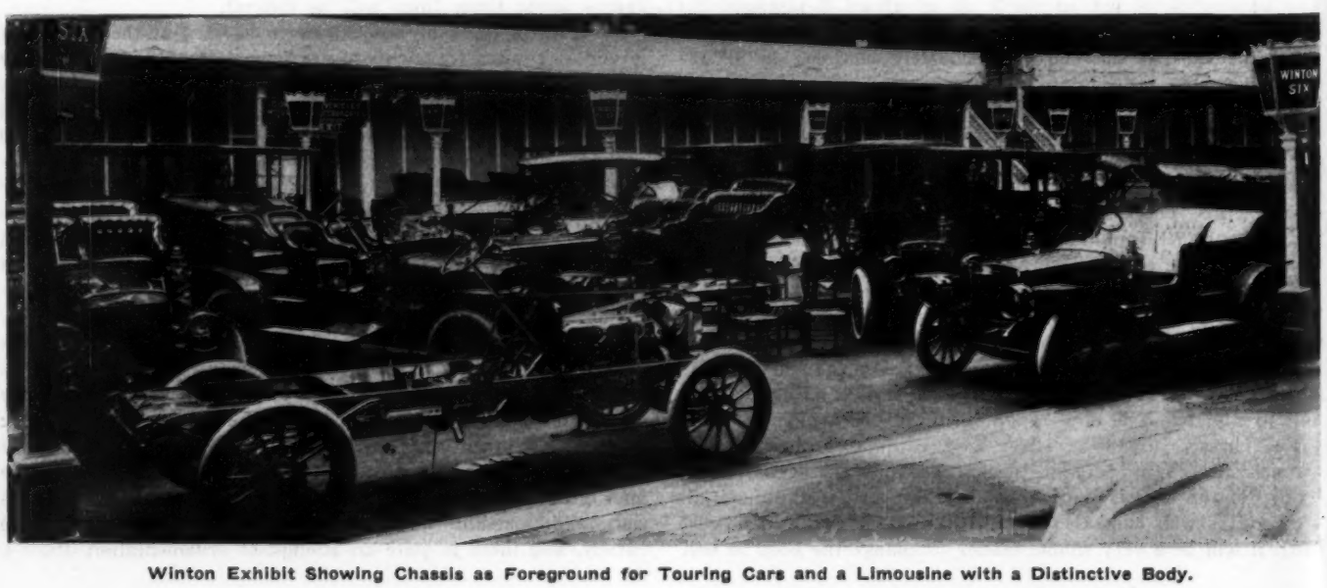
Broadcloth and whipcord fabrics as they are used in the better class of body work will scarcely require discussion, on the ground that cloth finishes come with the high-priced cars in which the body is usually as a "special" and the purchaser is well able to take care of his own interest. If he does not know of his own knowledge he can pay for the services of an expert who may understand the situation. On the other hand, it is in the low-priced cars that the body work must be at a low cost, and the chances of falling heir to upholstery below a fitting standard will have to be taken into account.

The Importance of Substantial Upholstery.

That leather is the most fitting material for the purpose is a well-established fact if the purpose is to use a car in general service and get the most possible out of it. When it comes to leather, there are as many grades as there are cows to skin. There is, however, a general average to be taken into account, and the value of the leather for the purpose depends upon several considerations. In a general way it will be fair to say hides are split in three thicknesses, and it is a natural sequence that the value of the upholstery will depend upon which layer is used. When a hide is skinned it is salted, and if the salting is not well done the hide will deteriorate very rapidly. Then, there is the question of the manner in which the skinning is done; it is ofttimes the case that the hides are damaged in the skinning process. At all events in the tanning process which may be delayed too long, considering a hide is not properly salted, the first thing to do is to remove the epidermis. From this point on it is a tanning process pure and simple. The "corium" or true hide is soaked in water to remove the salt and such other matter as will dissolve in the water. From this process to the "lime" vat is as a step, the idea being to remove hair and such other matter as will be susceptible to the liming. Scraping follows this, and the hides are then "bated" to remove the lime, which is liable to work an injury to the hides. Finally the hides go into the tanning bath and are processed according to the aims of the tanner, depending upon the quality of leather it is desired to produce. At all events, to come to the point, it is true that the hides are put through the "slitting" process, and in the slitting machine they are slit into two or three thicknesses, if the leather is to be used for upholstery work. Now, the separate layers are not all of the same value for the purpose, and it is to the point to know that the leather is of a certain value for the purpose. Then there is the question of the further process after the leather is slit and the tanning work is done. If in the "stuffing" process the leather is stuffed with glycerine, we will say, instead of cod liver oil, which many consider better for the purpose, it will be at a loss to the ultimate buyer, since glycerine is soluble in water, and the leather will not sustain in service as upholstery for automobiles.

Finally there is the finish to be considered. If the leather is of a satisfactory grade, and it is hand-buffed, it will show it, not only in the appearance, but in the pliability. If it looks flaky, and if it is not firm, then it is a sign of leather that is not of a desirable grade, the reason for which may be one of several. The spongy condition is frequently due to the fact that leather is far higher priced than tanning material, and in the "plumbing" process it is the aim to distend the pores of the leather to the greatest possible extent in order that the tannin will "take" to the greatest degree. It will be understood that there is a difference between leather and a hide or a pelt. Leather is a compound of the fiber of the hide with the tannin. If the process is conducted to excess there will be too much tannin, and spongy leather will be the result. Of course, there are dozens of details attached to the process, and it is not the purpose here to discuss them. The point is to show that good leather for upholstery will be from desirable hides, the prime of the slitting process, and the leather should be "stuffed" with cod liver, or other suitable oil.

Finally, it is true that old leather is of small value for the purpose, and yet there is a vast amount of leather that lays in storage for a time too long. If the upholstery is not pliable, of even texture, and if it is not at least of a good machine-buffed surface, it would seem as if it does not belong in a car.



Winton Exhibit Showing Chassis as Foreground for Touring Cars and a Limousine with a Distinctive Body.

Stevens-Duryea Exhibition of Chassis and Body Work by Way of Touring, Roadster, and a Limousine.

Of the work in the stock cars as they were examined it is a pleasure to note that in even some of the quite low-priced cars the leather is of a prime hand-buffed grade from hides that could not have been of a grade below a fitting standard. There may have been cases in which the leather could be questioned, but even they were not so inferior as to demand a strong objection.

No mention has been made of the patent leather finishes. This is a product that will only bow to experience. Even the makers refuse to guarantee it, and under such conditions it is not to be expected that writers will reflect its qualities. Even so, it does seem to serve very well, and many autoists take kindly to it on the ground that it does lend enchantment to the body finish. For the man with the pocketbook of sparing purport it might be a good idea to go after tanned leather of the standard finishes on the ground that the risk is well below that of the patent leather expectations, despite its fair utility. In fillings for cushions (stuffing), springs and air cushions are the most durable, but it is now common to use hair. In the "skin" jobs it is the practice to use hair on the top and excelsior for the most part. The latter material is of no value, on the count that it has no life, nor will it stand up for more than a few days.

Some Reflections of the Use of Good Materials.

An examination of the cars at the Garden discloses a diversity in style and of finish, and it is to point out a little diversity. Otherwise it is to note that the materials used are up to a standard which leaves little to be desired, especially in the big cars. In nearly every example of limousine at the Garden the seating capacity is seven; and some ingenuity is in evidence by way of the two extra seats. In the case of the Selden, the shape of the body is novel, in that it narrows toward the front considerably, and it is rather a pleasing effect at that. In the Locomobile the limousine can best be designated as roomy and luxurious. It is a standard product in every way and quite up to the chassis.

Then there is the Simplex with a limousine, also to be classed as luxurious. In body work such as this it is only fitting on the cars of the higher class on account of the cost of the body work. It is not uncommon to have the body foot up to over $2,000, which is overmuch to pay, if the chassis is of a comparatively low cost. But if the cars as noted have body work of a character to be mentioned, it is also worth while to say that nearly every make of car at the Garden is accompanied with an example of limousine, the value of which is not to be overestimated. Then there is the Springfield Metal Body Company, with a fine display of body work in all the types to be seen on the cars, many of which are of the Springfield make.

The White Steamer is there with the usual display in body work along the lines which made the White distinctive for a number of years, but it is a moral certainty that the White "roadster" type of body will be very popular. Then there is a White "close-couple" idea, in which a platform is available at the rear big enough to accommodate baggage, trunks, etc. This idea is one that we have not seen the last of.

On the Stearns cars the body work is on the same high plane as the cars, and this is saying more than a little. In the first place, it will be remembered that the Stearns cars are on a high basis, both in point of materials and in the design. The body work is so in keeping with the cars as to make the whole a picture in harmony. The Stearns limousine should attract more than a little attention among the autoists of good taste, primarily because of the quality of the work in the chassis, and again because of the lines of the body and the degree of finish, as well as the color scheme. Of course, when it comes to color, it is difficult to say what any one will take to. Some like yellow and more like green; all will agree on a high degree of finish, no matter what may be the color.

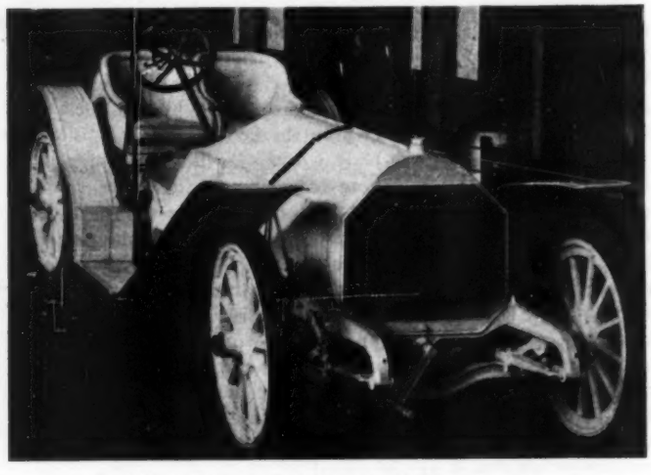
The Craftsman's Skill Displayed in Body Work.

Back of the color is the panel work and the framing upon which the color must rest. If the foundation is not stable, then

Packard Close-Couple, Sensation of the Garden.

it is plain that the color will "rub off." Sheet steel is now much in vogue, and of it there is something to be said beyond the fact that it is strong and of a permanent character. If the panels of sheet steel are properly made, they will add much to the strength of the whole, although it may be true that a sheet of steel, unsupported, has but little stiffness. It is the flanging and the curvature that adds the strength, and it is at almost no cost, nor does the weight increase materially.

The sheet steel can be "black" or it may be coated with aluminum. For that matter it can be galvanized, and even a prime coat of red lead will afford all the protection that necessity demands. Of the sheet steel body work, then, it is plain that it is not high-priced, nor is it likely to deform in service, and, again, it will not check; which is the danger to be encountered when wood is used for the panel work. On the other hand, it is only certain kinds of woodwork which are prone to warp and check. If the wood body work is up to a fitting standard the chances of trouble are slim, although it is true that a good wood body will cost quite as much as one of steel. This would seem to be at variance with the dictates of reason, but it must be remembered that, with steel body work, once the forms are available, it is whipped into shape with a minimum of labor, and in the long run it is the labor item that "canters" into money.



Roebling-Planche, Built by the Walter Company.

Aluminum is used quite as much as usual in the more costly types of body creations and the framing in such body examples is of wood. As a matter of fact, the framing has to be very stout if aluminum is used unless the sheet aluminum is rather thick. Then there is the question of the life of aluminum bodies to take into account. If the aluminum is exposed at any point, or if water seeps through and gets between the aluminum and the wood frame, it is assured that the aluminum will corrode away, and the time taken in the process is too short. On the whole, then, if aluminum is not used in the body work of the lower-priced cars, it is fortunate for the patrons who cannot afford to pay the higher price for the aluminum creations, if there is good chance of their not lasting as long as the steel plate or the wood body.

As to the finish, there is small chance of discussing the questions involved in limited space. With a foundation in which to rest the repeated coats of "finish," there can be as many of them as the autoist has money to pay for. In a general way it will be fair to say 22 coats of finish and varnish (total) will result in a product equal to about anything that man can produce. From the buyer's point of view it may as well be said it is rather a fine body that requires so much work, at a cost that has to be taken into account. The "stock cars" for 1909 will scarcely show evidence of anything like finish at the expense of 22, or even 18 separate finish coats. Indeed, it is a question if the low-priced cars, in which the chassis is on a fairly high plane, will stand the cost of "coach" work in the finishing.

As a matter of fact, it is a question to be seriously considered if "machinery" finish is not more appropriate in cars of this class. Certainly the examples of machinery finish to be seen at the show look quite up to a high standard, and the lasting qualities of the machinery finish should be considered. In machinery finish the base is pure white lead, with a small percentage of zinc. The lead and zinc are ground in oil, and pigment is added to give the color desired. If there is to be a luster, then varnish is added to the materials for the last coat or even two coats. If this paint (which is all it is) is laid on thin, and over a good foundation, it will slick down to a good finish, and five such coats will suffice for any automobile to cost, say, less than $2,000.

Machinery finish is far more durable than "coach" finish, and it can be touched up in due course as the occasion requires. The "coach" finish, on the other hand, will not look first class if it is tinkered with, and it is claimed that to refinish it is necessary to burn off the old coat before applying the new. On the whole, it is well to be satisfied with a little less finish on the body work of the cheaper cars, especially if more automobile is given instead. Indeed, it seems to be the case this year that the finish is less striking and the machinery is conspicuously good.

Some of the Notable Bodies.

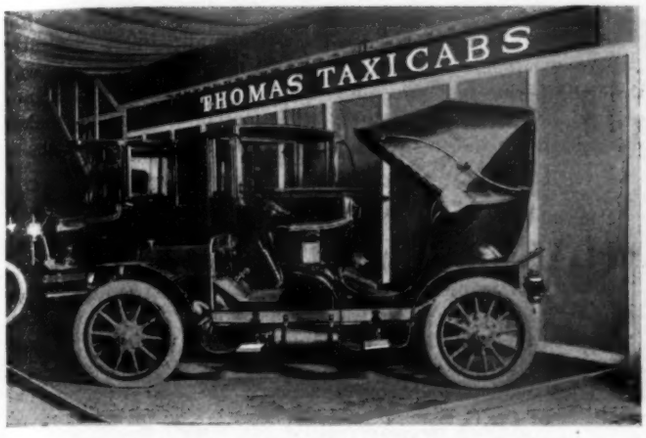
In conclusion, it will be the idea to mention several of the highest-priced bodies in the show, especially as they are something by way of an art proposition that is of considerable interest. This is particularly true of the Pierce Arrow, Louis XVI creation, as talked about in THE AUTOMOBILE last week. In view of the description as given last week, and the illustrations afforded, it will not be necessary to go into the matter at further length at this time.

In some of the exhibits the cars are provided with bodies on a plane indicating that it is the aim to deal with the over fastidious to their hearts' content. The distinction to be made is this: As a rule, the stock cars in the Garden are fitted with bodies up to a certain standard of excellence, with the understanding that "creations" can be had as specials. In some of the cases, however, the body work is of such a fine character that it must be confessed that there are no "creations" that would make a better showing. Take, for illustration, the Packard "close-couple"; it is one of the types of body to which the patrons of the industry have taken a strong fancy, and the particular example is up to such a high standard that it is bound to have a lasting effect on the future of automobile body work.

The Thomas "4-60" with a limousine is one of the cars of the show to which the pilgrims with money to spend are invariably tracked, and it is assured that this car, with the luxurious body it supports, is in keeping with Thomas aspirations in all respects. In a certain sense this body work differs from many of its neighbors in that it is not in any sense loud; to fully appreciate its excellent qualities it is necessary to go into the limousine and stay there long enough to get used to quiet luxury. The "6-40" Thomas is also there to be examined, and it is worth a trip to the Garden for that purpose alone.

THE NEW ROEBLING-PLANCHE CARS.

The Roebling-Planche, of the Walter Automobile Company, Trenton, N. J., though a newcomer, embodies standard methods long and favorably known for true worth. The cars are of the tried-out, modern methods, using most approved materials and designs that stand road work, as would have to be the case considering the motors of great power used in the Roebling-Planche cars. The motor work belongs to the class with "T" cylinders, and the castings are positively superior. The chassis frame is of splendid strength all along the line. The ambition comprises three cars, one of which is the big racer, rated at 120 horsepower; the second is a medium-powered car to go about a mile a minute or a little better, and the third is a comfortable, little power plant proposition in which speed is secondary, but in which it will be found adequate for all reasonable needs in town cars, taxicabs and for many purposes.



Thomas Taxicabs Naturally Attract Much Attention.

Studebaker Electric Trucks Have Substantial Look.

DETAILED PROGRESS AS TOLD IN COMMERCIAL CARS

THE commercial section shows many peculiarities, among which the most noticeable is the matter of load capacities. It was formerly thought that the truck reached its maximum capacity at or about five tons. The development of the past year or two decided in the minds of many manufacturers the fact that this limit had been placed too high and in the light of their experience should be reduced to three tons. That this opinion was not universal was shown at the other show, where one prominent commercial manufacturer showed a new five-ton truck, which had, moreover, a 50 per cent. overload capacity, thus bringing the nominal five-ton rating up to 7 1-2 tons.

Many Big Trucks Shown for First Time.

On top of this the present show chronicles the first public appearance of a new four-ton and a new five-ton, as well as the showing of another five-ton, and the cataloguing by the latter maker of a ten-ton machine. This latter is now the largest-capacity single vehicle in the world. In the light of these facts, it would appear as if the load limit not only had not been reached at five, but probably should be no less than ten tons. So the peculiar situation obtains, either the limit is three tons or the limit is ten tons; pay your money and take your choice.

Going into the details shows that the progress in load-capacity, if it can be called that, has been in the past largely a matter of the ability of rubber tires to stand up under the hard work. In fact, it may be pertinent to the subject under discussion, to repeat the statement of the maker of five and ten-ton machines previously spoken of. He says in part: "We could not build a successful ten-ton truck until the block tires were tested out and found satisfactory for heavy loads," and, again, "the wheels have been calculated so that the pressure on the ground does not exceed 700 pounds per inch of tire width, while the loads on horse-drawn vehicles commonly exceed a ton per inch of width." The latter are, of course, of steel, so that an analysis of this subject, and, particularly of the above statement, shows that the load progressed only with the progress in tires. In this connection, dual tires are on all of the heavy vehicles, and the block tires with individually replaceable blocks have made substantial and lasting progress. But the end of the tire question is not reached by any means.

New Spring Device on Newcomer.

It has been aided perhaps by suitable springing, Alden Sampson, for instance, fitting a spiral spring arrangement on the rear end of the very flat and very stiff rear springs. This carries the body empty and with very light loads absorbing all of the little shocks and jolts, while for heavier loads, close to the capacity of the vehicle, these are down tight together and consequently out of action, the stiff rear springs doing all of the work.

A side issue bearing indirectly upon this is the matter of carrying the radiator upon springs. This very delicate part, always susceptible to the smallest shock, it thus adequately protected and one source of trouble and expense removed. The writer knows of a maker who tried to support the radiator on soft pine blocks; result, more broken radiators. Then very thick soft leather was used in combination with the wooden blocks; result, not as many broken, but a constant source of trouble. Thus it is seen that this is a big step in advance. If the fact that an ordinary heavy truck radiator in place represents no less than $100 to $124 (and repairs cost proportionately), is mentioned, the advantages of properly protecting this part are stated in a few words.

To note all of the springs is to see the use of wider steel, a lesser number of plates and a flatter shape. The springs are of a superior material, in some cases of an alloy steel. The flatter shape necessitates greater stiffness for the same length, which is secured without overdoing the matter by the use of greater widths. Some consideration is being given to the matter of spring suspension for the motor and transmission, although none is shown.

How Knox Has Solved Proper Unit Suspension.

This item of proper unit suspension is, however, solved in several ways, all of which bear the earmarks of careful design. The Knox truck has adopted the three-point suspension with the engine and transmission as one unit; the Autocar people have the three-point, it is true, but there are two units, the engine and transmission mounted upon a sub-frame attached to the main frame at one central point in the rear and two in front. Alden Sampson, on the other hand, has hung the engine on a sub-frame, which in turn is flexibly spring suspended from the main frame. On this car, too, the transmission and differential units are each on spherically seated three-point suspensions. Each one of these methods has its own individual advantages, while the general idea of all three is to relieve these important parts of vibration and the strains due to the distortion of the main frame, this latter being necessary.

Very Few Shaft Drives Shown.

But three advocates of the shaft drive are to be noticed, each one of these being an outgrowth of the same manufacturer's pleasure car business. Two of these, the Thomas town car and the Autocar delivery wagon, deserve no special mention, but on the third, the Franklin, is noted the use of a worm drive. This has perhaps an advantage for light work that cannot be overestimated, combining as it does, with efficiency and other features, the more important one of noiselessness.

Some other outcroppings of this reduction in the noise idea, so noticeable in the pleasure car section, are to be seen. Thus Sampson has used a silent chain for the final drive, which has

In the Basement the Commercial Vehicles Hold Forth.

been further augmented by the fitting of a chain case. The latter reduces the wear of the former, by providing proper lubrication and secure protection from dirt, stones, etc. Other makers have arrived at this point, where they admit the necessity of this and will furnish it upon demand. These latter have gone to larger stronger chains as a safeguard against future trouble.

As noticed at the other show, the unreliable differential is losing ground, in one case in favor of a positive acting differential of an entirely different type. An idea shown in working form for the first time at the Garden show is a differential lock. This is hand applied, the idea being that when one wheel drops into a rut or slippery place the driver can, by throwing in this lock, pull out unaided. Then, too, this had a positive advantage in the unusual case of a chain breaking. Then by throwing in this lock the car can limp home using one chain.

Small Cars Lead in Progress, Though Small in Numbers.

In the small cars the progress is perhaps more noticeable than among the larger ones. In numbers they are about equally divided, but the latter are nearly all newcomers, so that as showing the modern tendencies it would appear as if the smaller car was gaining ground faster than the large one. The Autocar Company show its light delivery wagon for the first time, a chassis, and one of the Atlantic & Pacific Tea Company's wagons being exhibited. An engine and transmission in a dummy frame illustrate the quick removable sub-frame, this firm being the only advocate of that form of construction.

Franklin shows a full line of air-cooled commercial cars. These include a taxicab, a 1,000-pound express wagon with covered sides, and a two-ton truck with open stake platform. In all of these the same motor is used, this being 3 3-8 by 4, four-cylinder of the regular Franklin construction. The usual features, full elliptic springs, wood frame, tubular axles, etc., are retained.

Electric Driven Ambulance Built by Studebaker.

Hewitt exhibits for the first time the chassis of a new two-ton truck. The phrase, "Pedals to push—that's all," indicates clearly the construction. The keynote of simplicity carries all the way through, thermo-syphon cooling, double opposed motor, planetary transmission and other features being present. This same maker also builds, but did not show, a three-ton truck on these lines.

Mention of the Electrics.

No discussion or mention of the power wagons would be complete without mentioning the electrics. These are out in force, and vary in numbers from a single machine by the Champion Wagon Company up to five by the General Vehicle Company, and six by Studebaker. The Champion exhibit is a 1,000-pound wagon for the United States Express Company. This has single motor equipment driving a countershaft by Morse silent chain, and from there double roller chains to the rear wheels. The motor is of the G-E 10-20 type. Wheels are 36 inches in diameter with 3-inch tires all around.

General Vehicle Company Has a Full Line.

The General Vehicle Company show an unusually full line, ranging from a 350-pound light delivery with single motor, left hand control, tiller steer and other delivery wagon characteristics, up to a 3 1-2-ton truck with double motor equipment, open stake body, wheel steer and heavy, substantial construction throughout.

The basement showing of the Studebaker company includes an 850-pound delivery, a 1,500-pound delivery, 2,500-pound express truck without a top and a five-ton open platform truck. The delivery wagons are both fitted with lever steer, while on the trucks wheels are used. The big truck shows good attention to details, the axles, springs and wheels being well proportioned to the load. Upstairs the rest of the Studebaker exhibit consists of a twelve-passenger brake and an ambulance.

Fire Apparatus Attracts Much Attention.

The marked attention being given of late to the vehicles for hospitals, and more particularly for fire service, is to be noted in a pair of fire wagons exhibited by the Knox company. One of these is a high-pressure hose wagon for the city of New York. This is on a five-ton chassis equipped with 60-horsepower motor. There are two plugs on each side of the wagon, four in all, allowing four high-pressure lines to be coupled on. These lead to a large, high, pivoted nozzle in the center of the car, which, except for height, answers all of the purposes of a fire tower. The body of the wagon is arranged in the form of bins, three being provided, to hold a total of 21 lengths of 50 feet each of 3-inch high-pressure hose. Additional space and running boards provide for the carrying of a large number of men. Another fire department first aid wagon is also exhibited.

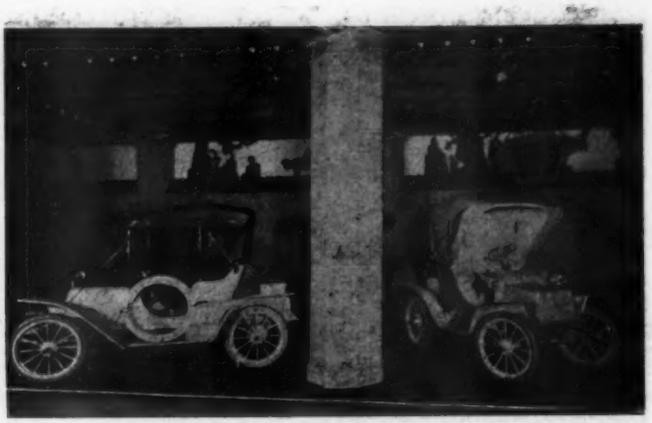
The commercial cars as a whole, gasoline and electric, while few in numbers, make apparent big advances in almost every department. The progress in this line may be slow, but it at least has to offset that, the merit of being sure. It is to be regretted that the well-known pleasure car manufacturers now building trucks or some other form of commercial cars do not exhibit alongside of the strictly commercial firms, as the comparison would be invaluable for all concerned. Thus the Packard, Pierce, Peerless and Locomobile trucks added to those on view would have made an exhibition worth going miles to see.

CLEVELAND IS USING THE "TAXI."

CLEVELAND, Jan. 19.—A month ago taxicabs were regarded with grave doubt in this city. Now three concerns are operating them, with rush orders in for thirty-five additional cars. The Charles B. Shanks Company, using Chalmers-Detroit cars, and the Studebaker Automobile Company led off, followed by the organization of the Citizens' Taxicab Company. The latter company is using Elmore and Cleveland autocab machines, the latter being designed by Louis P. Mooers.

The Citizens' Company is headed by a former New Yorker, Francis J. Wallace, and is devoted solely to running taxies. The cabs ordered by them are now arriving in this city.

A View of the Artistic Waverley Exhibit.



Babcock's Natty Runabout and Bridal Car.

ELECTRICS, VASTLY IMPROVED, ARE VERY POPULAR

THE electrics, segregated as they are in a neat little entrance hall, beautifully finished off, have some advantages in location alone, in that they will not be bothered by the vast crowd of the curious, only those vitally interested being at the pains to hunt them up. That this is fact rather than theory is shown in the number of people present there at any one time as compared with the main hall or balconies. With this geographical advantage of location we find the additional advantage of harmony, in that the exhibits all harmonize. Nearly every maker shows a closed body in black finish, usually a brougham; every one except the E. V. Company show in addition a victoria phaeton; in addition all have an exhibit of batteries, motor, or final drive, something to compare with the finely finished chassis of the gasoline cars, and perhaps the most noticeable feature of all is the runabout. In the attention given to this and the prominence accorded it in the exhibits, together with the bare idea of such a design, we find the first indication of the gasoline car practice. This is evident not alone in the body, but also in the phoney hood, the wheel steer, arrangement of the control with long vertical side levers, the use of some form of dashboard, the swing and style of the fenders, straight lines of the body, style and appearance of the top as well as many small mechanical details.

All these bespeak the success of the gasoline car and the desire of the electric makers to get in on it. This is very praiseworthy, but as much cannot be said of the working out of the idea, for that has seen the first evidences of a loss of identity, the electric by a process of future development along this same line, finally degenerating into a virtual copy of the gasoline car with only the substitution of electric power.

Bailey shows a very attractive victoria phaeton with beautiful body line. This had a most unusual steering wheel, the peculiarity being in the shape, circular for about two-thirds of the circumference, the rest of the wheel consisting of two straight sides. A runabout of strictly gasoline lines made a very attractive appearance.

Baker was one of the premier advocates of few batteries, thus securing light weight, and this company has about the smartest raciest looking runabout seen yet. This has a high-speed capacity when required with all of the usual normal speeds for ordinary work. A long wheelbase, rakish tilt to the left-handed steering post, and long sweeping fenders give a low long appearance which indicates speed. A liberal use of annular ball bearings makes for easier running and higher speed.

The only vehicle shown by the Electric Vehicle Company is an inside operated brougham, known as Mark LXVIII. This is a very luxuriously finished car, the upholstering and trimming being worthy of particular mention.

Considering the geographical location of the Anderson factory at Detroit, close to the always successful Packard, it is not surprising that this firm's runabout closely resembles in appearance that well known car. The straight line body, the wheel and hub caps, springs and spring hanging, all show traces of the original from which the copy was made. The copy possesses in its own field, too, equally as much merit as the original.

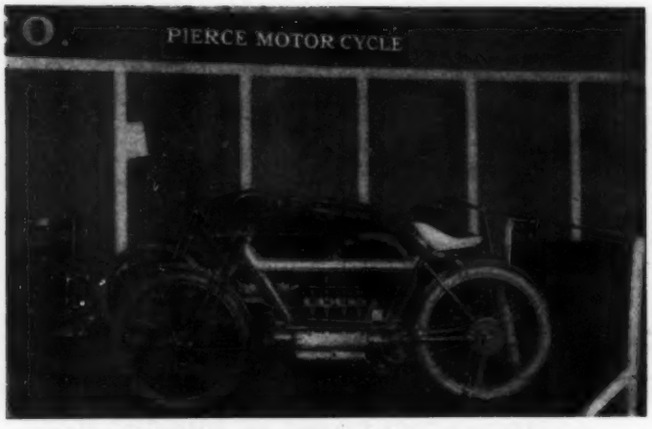
While Rauch & Lang manufacture twelve different cars in six styles, but two are shown, a coupé and a phaeton. In addition to the former, a very popular Winter car, and the latter, a more pleasing type for warm weather use, a set of batteries wired up to a motor, as well as the controller, were shown on a dummy sub-frame.

As this was the first portion of the automobile field exploited by Studebaker, this large concern, it is but natural that a very strong exhibit would be made in this division. The runabout, phaeton and coupé are all shown, in addition to which there is shown a four-seated brake and an ambulance. The latter is a great source of interest and evidences great attention to details of construction on the part of the factory. Thus the rear end of the body has two separate and distinct spring suspensions. The chassis is on a pair of semi-elliptic springs, while the body is hung upon a distinct set of springs of the full platform type.

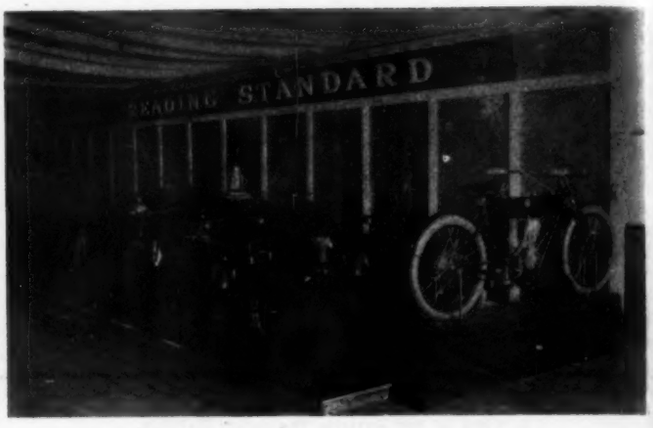
The Waverley Company exhibit upon entering the hall is the first sight to greet the eye. These are the two new types with the even newer features. But best of all is an electric exhibit of the motor and rear axle construction, showing the enclosed double gear reduction, the floating rear axle, etc.

The Woods Motor Vehicle Company has wandered away from the crowd in location at the show, being on the elevated platform, commanding a fine view of the main hall. This commanding view and isolated position are perhaps typical of the maker's standing in the industry. The use of annular ball bearings throughout the car, no less than sixteen being used of the highest grade, makes a fine showing for the prospective purchaser. The idea is that the ball bearings alone do represent much, but taken with the fine workmanship necessary in conjunction with the proper use of these imported bearings, means much more. A complete assembly frame is shown, this including motor, reduction gears, differential and countershaft. A noticeable feature is the use of herringbone reduction gears. These are very expensive to manufacture and assemble in comparison with spur gears, but otherwise all of the advantages are with the herringbone. The sprockets, too, show careful workmanship, being cut from dropped forged blanks and carefully hardened.

Taken as a whole, the electrics seem to have gained in popularity, coincident with improvement in electrical and mechanical details, superior materials, improved workmanship and up-to-date design. It is not strange in the light of these detailed improvements that the 100-mile car is in evidence.



Pierce Company Displays an Attractive Four-Cylinder.



Reading Standard, One of the Motorcycle Pioneers.

MOTORCYCLES FOLLOW AUTOS—SHOW BIG IMPROVEMENTS

THE tendencies among the motorcycles seem to be those that bring this vehicle closer and closer to the automobile. This industry, if it may be properly classified as a separate industry, seems to be going through the period of change preceding a period of standardization, which was peculiar to the automobile industry a year or a year and a half ago. The question of ignition, relative to single or double, magneto, timer or both, which finally resulted in the nearly universal adoption of single ignition with a magneto as a source of current, is now being fought out once more in the motorcycle division with the added zest lent by the fact that the make-and-break system has a proportionately larger and more influential following. The handwriting on the wall is seen in the adoption of the Bosch magneto as a single source of current on such leaders as Pierce, F. N., M. & M., Peugeot, Royal and N.S.U., also fitted as an extra on Excelsior, R-S and Thor.

Another feature in which automobile influence is shown very markedly is in the number of cylinders. The two-cylinder finds many more adherents than does the single; in fact, this tendency is so marked that hardly a manufacturer present has had the temerity to stake his reputation on single cylinders only, all showing both single and double cylinder models. In this case, too, the multiple cylinder machine is given the preference over the one-lunger. This tendency is being carried forward to the four-cylinder, as it was a year ago in the automobile field, being plainly shown in two four-cylinder models exhibited, both being comparatively recent arrivals, but in each case from an old-established house. Rumors of several more four-cylinders the coming season are heard.

In this connection the matter of valve operation similar to the four-wheeled machine motor is gradually receding from suction inlet valves towards mechanically operated and interchangeable valves. In this class, which is constantly growing, we find to-day N.S.U., Royal, R-S and others.

The final drive, too, shows a decided leading towards the practice of the past on the four-wheeler; that is, in the increase in favor of the positive drive over the friction or belt drive, and in the former class the gain made by the shaft. One year ago to-day there were no shaft drives; to-day, two of the latest models show them, these two incidentally being the two four-cylinder machines. The chain continues to gain over the belt, and in turn has lost some adherents to the shaft class. Six chain drives were observed and seven belts, but of the latter the V or trapezoidal belt had four adherents. As the latter is very close to chain construction with its wedging non-slipping action, these might without serious error be classed with the chains.

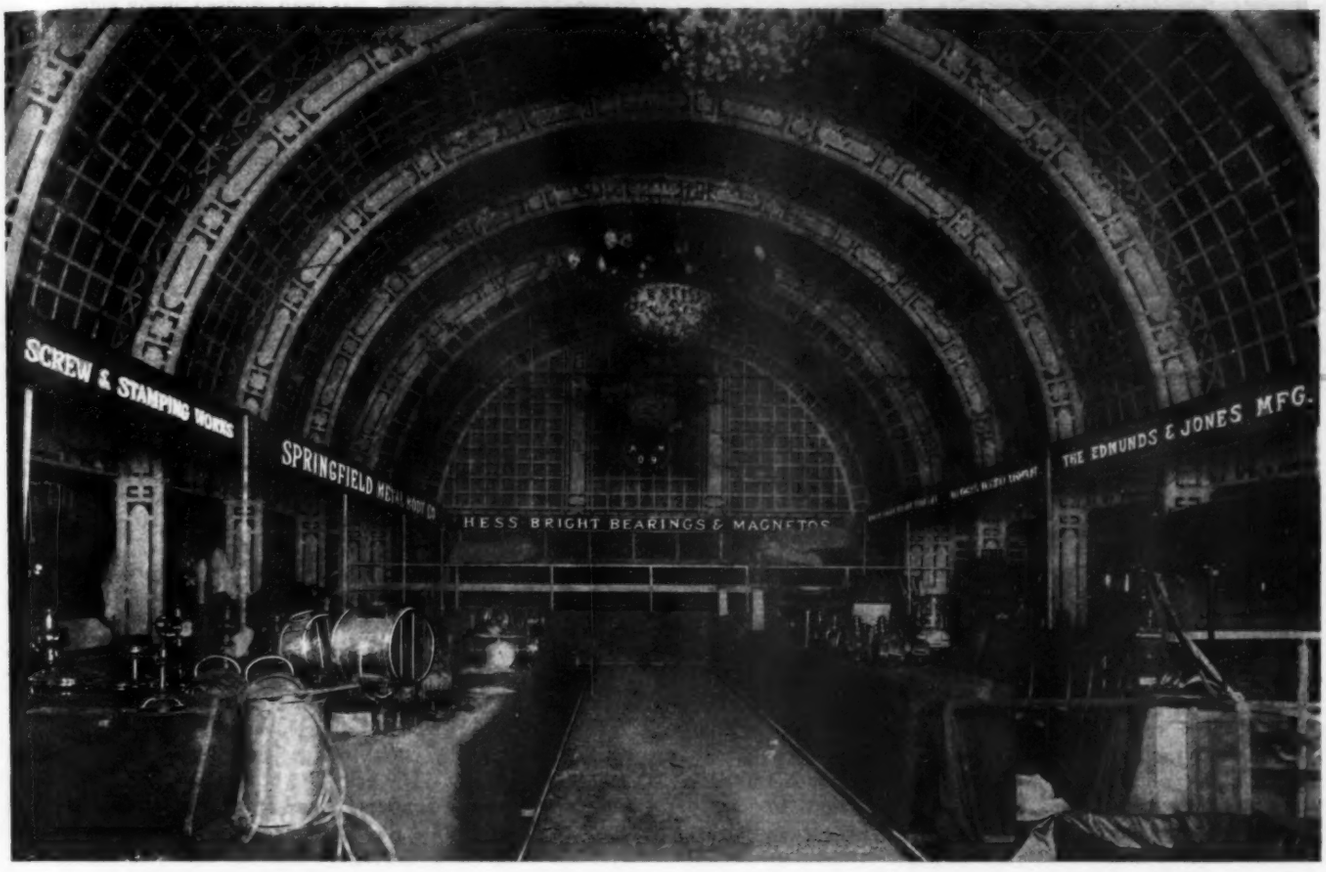
Not the end of this list of comparisons, by any means, is the matter of transmissions and clutches. Where one year ago these were unknown in the two-wheeled vehicles, the present show reveals one or two of the latter and still more of the former, the stock argument being usefulness of low speed for

In materials, too, the hue and cry raised a year ago in the motor world has awakened the motorcycle man to the great advantages of superior materials. So we find a liberal use of nickel and other alloy steel for crankshafts, wrist pins, valves and other parts, as well as a lot of special steel for springs, front forks, etc.

Longer wheelbase, larger tires, better and more comfortable seats, more cars fitted with foot rests to allow a change of position, longer and more comfortable riding handle bars, a lower center of gravity, better mudguards, a more efficient exhaust system, and stronger frames, are the more noticeable changes.

A Very Complete Line Is Exhibited of N. S. U. Cycles.

New Era Auto-Cycle Has Attractive Appearance.



Concert Hall Is Most Artistically Arranged and the Accessory Makers Housed Therein Are Happily Comfortable.

ACCESSORIES WITH FIRST 1909 SHOWING IN THE GARDEN

AFTER the cars have been examined—and often before—the innumerable accessories command the most careful interest and examination. The proof of this is easily demonstrated by the coteries assembled at the various spaces where something is added making for the more complete and greater enjoyment of automobiling.

At the Garden few of the accessory exhibits seen at the Grand Central Palace are missing, but as many are added as subtracted from the grand total.

In a general way, it may not be out of place to mention one or two tendencies. For illustration, it is quite plain that "non-skids" have the center of the stage in one zone of activity; then there is a fine display of "demountable" rims, and "detachable" ideas are there in plenty. In a word, the "footwear" of the auto is receiving much attention.

It is also a fact that the question of lubrication is so thoroughly in hand as to render it a conspicuous feature of the accessory exhibition at the Garden. Autoists now appreciate the fact that the absence of an oil bill is a sure sign of a repair bill, and they also know that the oil bill is the least of the evils.

Of jacks and such devices there is also a good showing; but it is the ignition situation that is the most on the surface, if indications count for anything. All through the booths, and down in the cars, everywhere, the ignition question is uppermost. There are points in relation to this phase of the automobile which would stand much discussion were the time and the space available. In the first place, if the earlier schemes of igniting had faults, the same faults are now conspicuous for their absence. The reasoning of last year is defective this year, and it is more of a problem than ever to be able to decide in an unbiased manner the means for the end.

Magnetos are quite as conspicuous as before; they are in superior form, just as one would reason; but it is not any more plain that they should be applied in one way or the other than it was some time ago. The other side of the question is as full of meat as a cocoanut, and the "magnetic spark plug" is having a large say. Then, there is the unit coil, the Atwater-Kent system, the master vibrator and numerous other details, all so carefully worked out that it is a great game to look them up and discuss their relative advantages, only to conclude that it is simply a matter of appropriate selection in the long run.

So on, all through the show, devices of merit, each in its place, all displayed to the greatest advantage, and interested spectators everywhere. It is a source of regret not to be able to render again a full description of all the accessories at the Garden, but the information will be found in THE AUTOMOBILE of last week, or the week before, or the week before that; in the meantime it will be the aim to discuss such new matters as the search is sure to unearth.

TIRES AND ACCESSORIES.

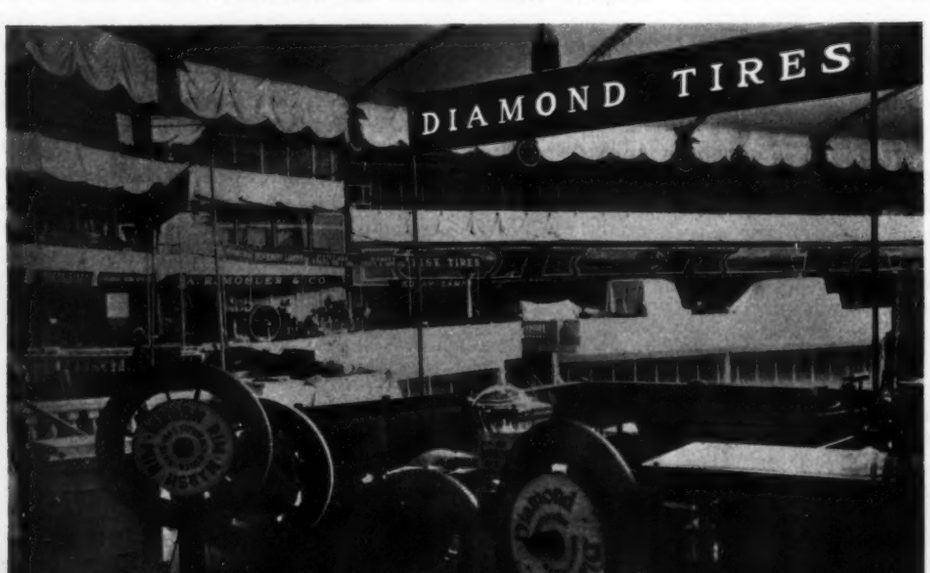
Atlas Rubber Co., Buffalo, N. Y.—The exhibit of this company consists of a non-puncture inner case. This is a device looking not unlike a very light cloth-covered outer shoe, which is placed between the shoe and the tube. When this is done punctures are absolutely impossible. This feature is secured by inserting, in what might be called the tread of this inner case, a series of flat discs of steel. These overlap one another and enough are used to protect completely the inner tube. These strips are very thin and not very wide, being about 1-32 by 3-8-inch in cross section, but the size is kept down purposely so as not to increase seriously the weight of the tire nor impair the resiliency.

Dow Demountable Rim, New York City.—The very general interest of the past year in methods of quickly removing a punctured tire and replacing it with another good tire has culminated in a lot of demountable rims, tires and wheels. One of the best of these is the Dow rim shown in the basement of the Garden. This consists of a series of five converse wedges on the felloe which co-operate with an equal number similarly placed on the rim. These not only taper in a circumferential direction but sideways as well, so that when once turned on the rim simply cannot come off; when turned so as to come off the two tapers aid in removing it quickly. This turning is easily accomplished by means of a rack fastened to the rim, the turning of it being done by a key with teeth on it, which teeth engage with the rack. A locking device or plate is simply to prevent change of relative position, and while it takes the driving strain, the size is such as to preclude any possibility of failure. The change with this rim may be made by a novice in a few seconds, the reverse process of putting it on being made with equal facility and speed.

Hopewell Bros., Cambridge, Mass.—Not the least of the exhibitors is the showing of the garment makers. This firm shows fabrics, robes, vests, etc., as well as the Hopewell tire case. Now that a great deal of interest in the subject of tires has been aroused, many autoists who did not do so formerly are now carrying extra or spare tires. To do this properly requires a tire case. The tire cases made by this firm have many points of superiority and many special features, all of which go to make a trip to its booth in the gallery well worth while. They have no buttons, no laces, are perfect fitting, and absolutely waterproof. If that doesn't suffice to arouse curiosity enough to visit the exhibit, then the case is hopeless.

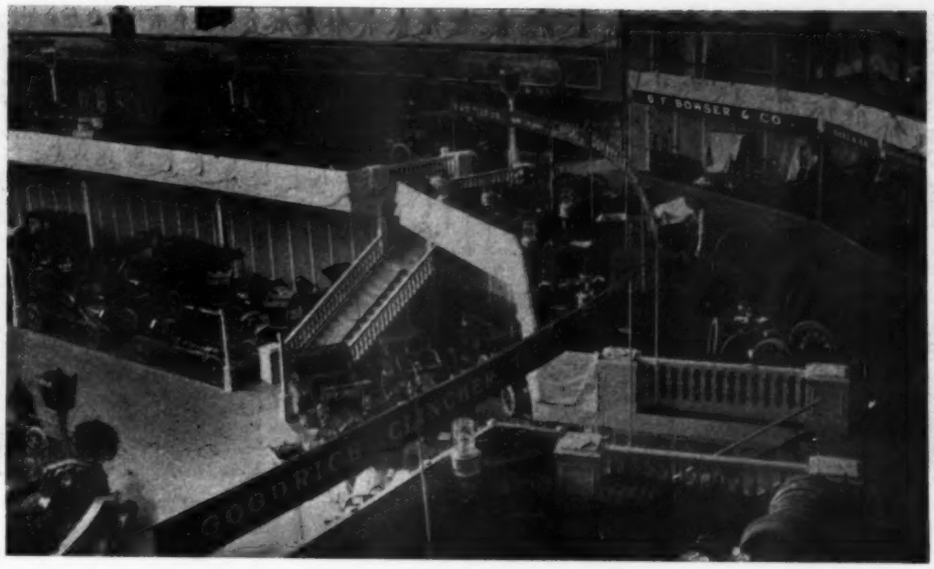
Trenton Rubber Mfg. Co., Trenton, N. J.—Prominent in the balcony is this firm, manufacturers of wrapped tread tire casings, other rubber specialties, and "Thermoid" brake lining. The latter has attracted a whole lot of attention during the past year from the fact that it will not burn out, lasts indefinitely, and grips instantly. With these sterling qualities it could not help but be a successful lining for brakes. It is made in all standard widths from 1 by 1-8 inch up to 4 by 1-2 inch, but may be had in any length, width and thickness. Aside from rubber tubing and other minor rubber specialties, the wrapped tread casings attract the most attention. These are very well and carefully manufactured, the tire is perfectly and uniformly cured, at the same time guarding against buckles and blisters. The price of these is low, giving the buyer either the same tire for less money or more value in the tire at the same price, so that the buyer wins out either way.

Nadall Mfg. Co., Chicago.—One of the best of the demountable rim devices is shown at this stand, this, by the way, being a newcomer. The rim has a series of three arc-shaped shoes which hold the clincher rim to the felloe as they are forced radially outwards. This forcing is done by means of a special wrench which fits a nut on the inner projecting ends of the shoes. When rotated one way this pushes the shoes outwards, locking the rim in place, while rotation in the opposite direction serves to loosen it. A locking device at the end is covered by means of a light brass threaded ferrule which also contains a lubricant, thus keeping the whole device in an operable condition at all times. The shoes, which are the important part, are of cold rolled steel, 3 inches long, 1 inch wide, and 1-2 inch deep at the thickest part. The outer surface of these is curved, this curvature being the same as that of the slot in the clincher rim which receives it, both radii being different from the radius of the inside of the rim. Beveled edges allow pressure upwards and to the side, as well as an easy entrance of the shoes into the slots.



U. S. Spare Wheel Co., Detroit.—This is a new spare wheel with a quick attaching device. The wheels are light, yet very strong, without felloes, spokes or hubs. The ingenious mechanical fastener consists of four parts, two stationary and two locking clamps. The two latter operate by the simple pulling up of a ratchet lever, which may be done as quickly as it is told. To release, a catch is held up by the thumb and the lever pushed in the opposite direction. All arguments applied to spare and demountable wheels and rims

apply with equal force to this one, the quick-locking device being an additional good point.



TANKS, RADIATORS, ETC.

Avery Portable Lighting Co., Milwaukee.—These pioneer makers of gas tanks under the trade name of "Autogas" show the three automobile sizes and the very newest motorcycle size. The latter is a small one, being but 2 inches in diameter by 15 inches long. At that it will supply a one-quarter foot burner for 28 hours. The cylinders used for all of these are of cold drawn seamless steel of a heavy gauge, the bottoms being double and brazed to resist greater pressure than the sides. After plating they are tested to 800 pounds, so that with the filling restricted to 225 pounds pressure a factor of safety of over 3 1-2 is secured. To insure additional safety, a plug is fitted in the bottom of each tank, which will rupture at 500 pounds and permit the gas to escape. The idea of this is to preserve the tanks, which in comparison with their contents are very expensive. The tanks are fitted with purified and dried acetylene gas generated at the factory in special large generators. The pressed steel boxes for carrying an extra tank on the running board were also shown, these being of simple yet pleasing design and extremely neat in both internal and external appearance.

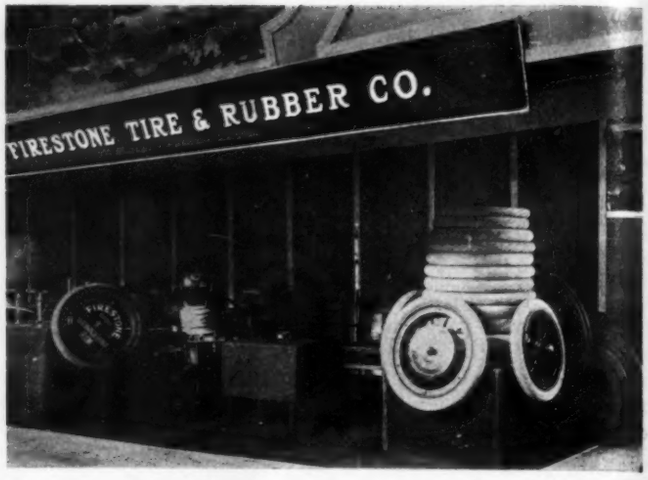
Auto Pump Co., Springville, N. Y.—This is one of the simplest and plainest yet most useful exhibits of the show, being but an exposition of the Spencer power air pump. It is a one-cylinder pump for tires and has two pistons, so that the single cylinder is as effective as two. The shape is such as to allow holding in the two hands while connection is inserted and held in the end of the starting crank. To allow this a special starting crank with a ratchet is furnished by the company, the ratchet allowing the crank to remain stationary while the pump is in use. Although small and inexpensive, this is very carefully made and every one is tested to 120 pounds pressure.

A-Z Co., New York City.—Surrounded by a bulwark of square tube radiators, as made for Lozier, Stevens-Duryea and many others, the real exhibit of the details of this company's construction are effectually hidden. Behind the bulwark, however, one finds an exposition of a new departure in radiator construction. This is of the bulge square seamless tube type supported on ball trunnions on either side, the latter following out the more modern tendency to do away with a solid fastening for delicate radiators. Various sheet metal accessories and novelties are shown, including hoods, fenders, trunks, mufflers, etc.

Livingston Radiator Co., New York City.—The excellent showing of square tube effect radiators as made for such discriminating buyers as Simplex and others, attracts much attention. The good features of this square tube, aside from the improved appearance, are more efficient cooling, due to larger air surface per square foot of frontal area, increased flow of water due to larger water spaces, lighter weight per surface unit, strong non-leaking joints, and other minor points. All these are brought out at the exhibit space by the use of sections completed and partly completed, showing the various processes of soldering the edges of the sheets, etc. The radiators may be had with a seamless case or with double seamed and securely soldered joints. To insure against leakage from any cause whatever, all radiators are tested at the factory to 20 pounds pressure with both hot and cold water, while frequent tests using 40 pounds have had no serious results nor any breaks.

Lunkenheimer Co., Cincinnati.—The product of this concern is almost too well known to require any mention, including as it does all kinds of brass goods, gasoline strainers, priming, oil and grease cups, generator valves, etc. Recently, however, several exclusive automobile specialties have been developed. Chief among these are the multiple-feed mechanical oilers. These are made to suit individual requirements and may be had with or without an independent manifold or sight feed. These are worm driven from the belt shaft and may be had in any number of feeds from four on up. The pump portion of this is very simple, in marked contrast to the usual complicated pump. Another new specialty recently brought out is an exhaust pressure regulator which may be used anywhere that pressure is desirable,

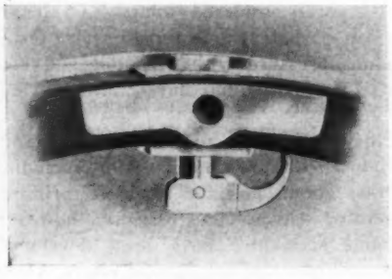
Fisk Exhibit Had a Picturesque Look and Outlook.



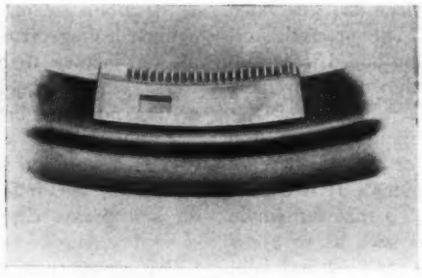
The Firestone Solid and Pneumatic Were Both Here.

as in connection with oil or gasoline tanks located at the rear of the chassis, for operating an exhaust pressure lubricator, or any similar use. This is a very simple positive device of small size, which in use has been uniformly successful. It has found favor among the autoists of discrimination and it is well worth looking into.

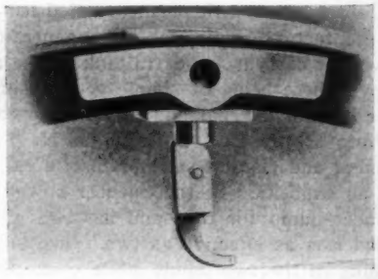
gasoline is rendered available at will, in just the right measure. In some cases the pump is located inside of the garage, and, again, for the greatest possible safety, the pump is located out of doors. In all such cases a suitable cabinet is to be had from the Bowser company, and, with the gasoline protected from evaporation, water excluded and the whole under lock and key,



Dow Rim Showing Key In Position for Use.



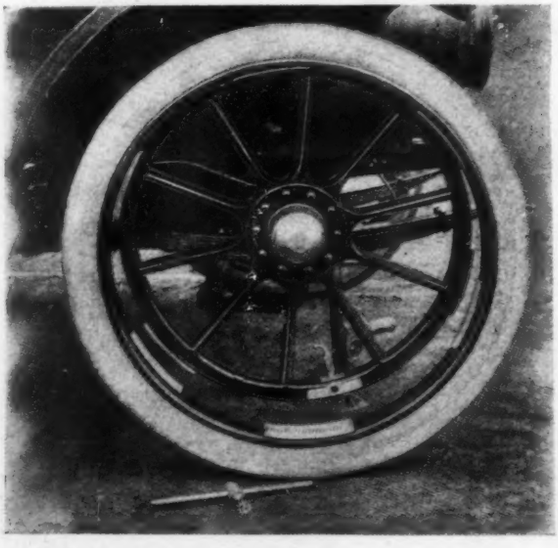
Dow Rim Showing Clamp Fixed to Felloe.



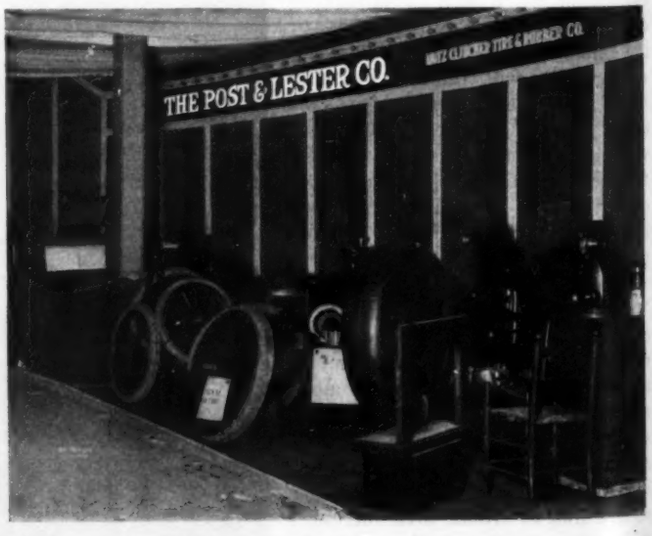
Dow Rim Showing Key Inserted to Make Ready.

S. F. Bowser & Co., Ft. Wayne, Ind.—This is the company whose equipment covers the field of gasoline storage on a basis of economy and safety. The exhibition at the Garden is of the greatest interest and includes a line of storage tanks, as well as pumps, of the class that will not only handle gasoline, but measure the same as well. It will be remembered that with the Bowser system the tank for the gasoline is underground, and by means of suitable piping to a pump conveniently located the

the system is one of the best investments for the autoist of business acumen. Then, there is the insurance question to be taken into account, and it is one of the advantages of the Bowser system that it is so good as to meet with the entire approval of the Association of Fire Underwriters. Thus, the installation must be made according to "code," but it is the practice of the Bowser company to furnish all the information required for the purpose so as to make it simple for the purchaser.



Dow Rim With Tire in Place Ready to Slip Over.

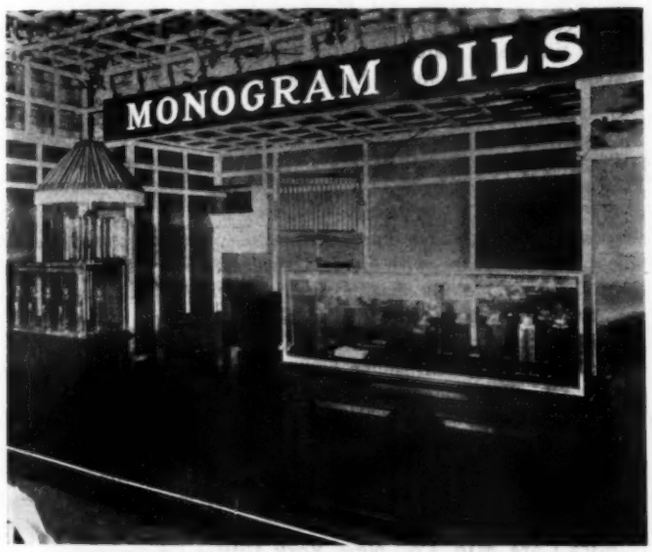


Where the Motz Clincher Tires Were Shown.

GOOD LUBRICATION AN AUTOMOBILE'S NECESSITY

Adam Cook's Sons, New York City.—This old and well-known firm showed the equally well-known Albany grease in four grades. The product is, however, made in seven regular numbers. Of those shown Nos. 0, 1, 2, and 3, the first two are for transmission, equalizing or other gears, the former in Winter and the latter in Summer. For other automobile uses No. 3 is recommended for Summer and the lighter, No. 2, for Winter use. This is a pure lubricant, which, its makers state, does not drip, splash, or waste away, is self-acting, and runs only when the parts are in motion. The quality of all of the seven numbers is the same, the only difference being in the consistency, this being done to suit the use for which it is intended. The exhibit was a simple exposition of the product on its merits, no attempt being made at original and startling effects.

Columbia Lubricants Co., New York City.—Prominent at this stand were two large glass cases, the one having a full line of this firm's familiar Monogram oils in the various grades.



Monogram Oils Made an Effective Showing Here.

The other case held a rather unique and most interesting exhibit of the various numbers in the oil refining series, including waste and other undesirable products. By showing the process and undesirable constituents alongside of the pure finished product, the effectiveness of the latter was doubled. This is an oil that was developed for racing purposes where the question of price does not enter. In this line the oil has been uniformly successful, the first three cars in the Vanderbilt Cup race and the first five in the Savannah Grand Prize race being users of this product. No expense is spared in the factory production of this oil on the supposition that once a Monogram user always a Monogram user.

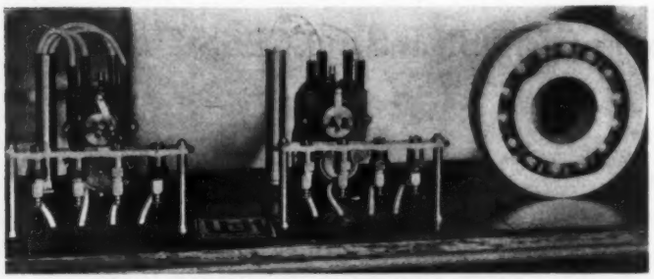
George A. Haws, New York City.—"The Oil that will not Char," the old standby Panhard in the familiar checkerboard cans, was shown, the three grades being exhibited in simple form, but the red cross-barred cans formed the greater portion of the exhibit. Every owner and driver of a car should be made to realize, early in his autoing career, the extreme importance of good lubrication, and that the use of the best grades of oil is the only safe policy to follow. In the line of well and carefully made products, containing no free tarry matters without lubricating value at high temperatures and with the inevitable decomposition, this product stands forth in a class distinctively its own. The adoption of the sealed spout on the can, preventing the substitution of inferior products, is one that cannot be commended too highly. In these days of bargain, fire and other "wonderful" sales, anything that absolutely insures the identity of the product is a welcome change to the grateful autoist. In connection with Panhard oils and lubricants in general, attention is called to the fact that "light" as applied to oils refers to the gravity and not to the color, so that the lightest colored oil is not of a necessity the best. A little folder which this company is distributing gives, besides a full list of well-known cars and the correct grade of oil for use thereon, a series of trouble preventers under the heading, "Useful Hints."

White & Bagley Co., Worcester, Mass.—The products of this company bear the euphonious titles "Oilzum," "Cleanzum," and "Washzum." The last is a linseed oil car soap for washing cars. This is said to wash easier, quicker, and cleaner than other soaps, besides improving the luster of the varnish. "Cleanzum" is an antiseptic hand cleaner, put out in large 10-cent cans. The first-named, "Oilzum," is, however, the principal product. This is an absolutely carbonless cylinder oil and is made in five

Where the Original Panhard Oil Made Its Display.

grades, one for White steamers, one for Stanley steamers, and three other grades for gas engines. These are a heavy oil for air-coolers or low compression motors, medium for particular use on splash systems of lubrication. The third or light-bodied oil is intended primarily for cylinders. This is especially useful with tight-fitting pistons and for Winter use in all forms of cylinders. The carbon test of a pair of valves shows the big advantages of the product, one with a common oil showing carbon deposits after 150 miles running, while at 4,000 miles the valves with "Oilzum" were as bright and clean as when new. A little booklet, entitled "Oswald, the Chauffeur," is being distributed. This is a neat little love-story in which "Oilzum" plays an important part, and is told in the vernacular of the streets.

W. C. Robinson & Son Co., Baltimore.—In the selection of a good oil, the autoist should be guided by its record in the past, the appearance of it, and the feel. The last two were clearly shown to the people in this exhibit where five grades of the well-known Autoline oil were allowed to run from one series of cans to another over a plate of glass. Beneath this was placed a series of electric lights so that the appearance of the oil could be clearly seen. The troughs in the glass through which the oil ran were open so that one could feel of the oil. As to its past record, the company has been in the business for many years and "stands pat" on its reputation. This exhibition was a striking one, which drew an interested crowd at all times.



U. & H. Magnetos and F. & S. Bearings—Bretz Co.

Vacuum Oil Co., Rochester, N. Y.—Under the tradesmark of Vacuum Mobiloil this company has established a world-wide reputation for its product. The latter is made in five grades and a cup grease. Featured at this stand and particularly applicable at this time of year is the new oil which has been brought out very recently. This will bear the high-sounding name of Gargoyle Mobiloil Arctic. Its special features are non-carbonization, zero cold test, and will feed through any lubricator in any weather. The cold test feature is the one which makes the latter claim possible and really is a very desirable one from any point of view, for one may reason if any oil will work well in zero weather it must work as well and probably better in warm weather. A neat little 5 by 6 catalogue, distributed at this booth, gives pictures of the Vanderbilt and other famous races. In the back of this four-pages devoted to emergency notes and three on sparks, are followed by a list of no less than 500 American and foreign cars, a grade of Mobiloil being recommended by each.

W. P. Miller's Sons, Long Island City, N. Y.—At a commanding position in one of the balconies was located the extensive showing of this firm's "Pan-o-lite" and excelsior automobile cylinder oils, excelsior Fiberous oil, and Miller's grease. This booth shows the characteristic energy of this firm which last Fall was displayed equally well in another way. This was at the scene of the Vanderbilt Cup race, where this firm was the only one to establish an oil camp to supply contestants with oil during the race. A series of postal cards showing several views of this camp were distributed.

W. R. Winn, New York City.—Not to be outdone by larger exhibitors with more space this maker had his small space very attractively arranged. The showing consisted of a line of gas engine cylinder oils in four grades, several grades of steamer oils, and a hand soap. The latter known as "Cleaneasy" is useful for all other purposes as well, but for the hands the writer knows it to be a very effective and efficient cleanser, in which respect it lines up to its name and "cleans easy." An extremely convenient and practical idea is the sale of snow white cotton waste in one-pound closed packages saving thereby labor, time, and material to the small dealer, besides being an excellent way for autoists to carry it.

IGNITION SPECIALTIES, COILS, PLUGS, SWITCHES, ETC.

American Electric Fuse Co., New York City.—The American Igniter combines within itself timer, coil and high-tension distributer. The whole is contained in a hard rubber case about four inches in diameter and three inches deep, and is connected on one side to a storage battery and on the other directly to the spark plugs.

E. M. Benford, Mt. Vernon, N. Y.—The "Monarch" line of ignition specialties comprises spark plugs of both the mica and porcelain types and a roller-contact timer. In the latter, both roller and contacts are made of imported tungsten steel, which is claimed to eliminate all wear in these parts. The ground connection is through a spring plunger in the cover bearing against the end of the shaft. The body is a solid piece of fiber enclosed in a nickel-plated shell. A special plug has been brought out for use with magnetos, in which the insulation, of mica, is twice the usual thickness.

R. E. Hardy Company, New York City.—A novelty at this stand is the combination spark coil and plug. The coil is mounted on the outer end of the plug in a tubular casing of non-conducting material. One master vibrator and condenser is used with any number of these plugs. Only the primary wiring is exposed. This system has been in use experimentally during the past two years with perfect success. It is said to be especially desirable for marine engine work. The standard line of "Sta-Rite" spark plugs is also shown.

Lavalette & Company Showed Their Goods Here.

High Frequency Ignition Coil Co., Los Angeles, Cal.—The Seeley ignition system shown here mounts the spark coils on the cylinder heads in individual fiber cases about two inches in diameter and an inch and a half deep. They connect to the spark plugs through short brass strips. The system operates on eight ordinary dry batteries, and is claimed to draw only one-tenth of an ampere. It has no vibrators or other moving parts except the timer.

Mica Core Mfg. Co., New York City.—Two new ideas in spark plugs may be seen in this exhibit. In the "Eccentric" plug the spark gap is adjustable by turning the central electrode. The inner end of the shell is bored eccentrically, and the sparking point projecting at right angles from the electrode is by this means brought towards or away from the shell. The "Cirkle-Fyre" plug is of the closed end type and the central electrode is formed with a head at its lower end that will just pass through the opening of the shell. When the core is placed in the shell a circular spark gap is formed. The Raves timers and distributors are also shown.

Never-Miss Spark Plug Co., Lansing, Mich.—This company exhibits the well-known "Never-Miss" plugs in magneto and battery styles, all of which are guaranteed for one year. A novelty is their small clock intended to be fitted to one of the spokes of the steering wheel.

NAME PLATES, ETC.

Chandler Co., Pittsburg, Pa.—Name-plates and monograms of all descriptions are shown at this stand. They are made by a number of processes—stamping, casting or acid etching, according to the nature of the work required. The exhibit comprises specimens of each of these varieties, in the shape of name-plates for motors and gear-boxes, dashboard name-plates and license plates, names in special designs for demonstrating cars and initial monograms for individuals owners. In fine, it is an exhibition of name-plates along stock lines, or specials.

MATERIALS AND WELDING.

Erie **Foundry Co., Erie, Pa.**—Castings, gray iron castings, cylinder castings, in fact it would be to repeat the word casting as many times as there are kinds of castings in an automobile if reference is to the kind that look good, are made of good materials by a process which augurs for quality. Cast vertically, of a uniform thickness of walls, due to the fine core work and to the fact that the Erie is with the requisite experience, the specimens to be examined at the Garden are as a drop in the bucket by way of an approximation of what can be done in a foundry which is equipped for the work and caters to the automobile trade.

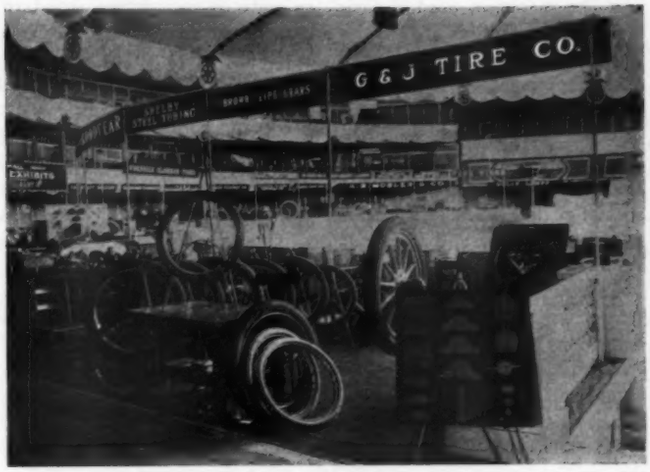
Thos. Prosser & Son, New York City.—It will be remembered that this well-known company represents Freid Krupp, A. G. Essen un Ruhr, and the display at the Garden includes the line of special auto steel as turned out by this firm of German gun makers. The line for this year includes spring steel of the better grades, as well as the usual run of Krupp chrome nickel steel; then there is the line of nickel steel, and die forgings in all the well known Krupp grades. In side frames the company reports considerable activity, using the well-known grades of Krupp steel for the purpose. The autoist who has the time to go to the Krupp exhibit will be able to see the extent to which alloy steel can be deformed without fracture, which is the sign of quality. Nor will it be a sign that the steel can be deformed easily. As a matter of fact, some of the steel resists on a basis of even 220,000 pounds per square inch when it is treated, and even in such cases the elastic limit is as high as 200,000 pounds per square inch. On the other hand, much of the steel is relatively soft, and the tensile strength can be as low as 100,000 pounds per square inch, with the elastic limit somewhat below this point. In all cases it is the claim of the company that the elongation and the kinetic properties are held at a very high point in the grades of Krupp steel used in automobile work.

Davis-Bourneville, New York City.—This exhibit is one that attracts a good deal of notice because the process is new, and it is also becoming of the greatest importance in automobile work. The exhibit comprises examples of the company's line of acetylene generators, with oxygen tanks to go with them, as well as regulators and the detailed parts such as will enable anyone to weld parts of any material. Cylinders are repaired by this process, aluminum cases are made as good as new, and in fact there is no part in an automobile that cannot be fixed by the process; even a crankshaft can be mended. Oxy-acetylene cutting is of the greatest interest, and the "artist" at the Garden will tell all about it.

TOOLS THAT MAY COME HANDY.

Cook's Standard Tool Co., Kalamazoo, Mich.—A line of "jacks," all with reversing levers as the 1909 feature. That the reversing lever is a decided advance on the old button idea is assured, the proof of which lies in the fact that autoists cluster around the booth and praise the new one for its close conformity to the needs; as every autoist sees it instantly he adds experience to his list of accomplishments. In this line of jacks the lifting is done on the downward stroke only, and the upward stroke is free.

Pratt & Whitney Co., New York City.—This company is so well and favorably known as makers of tools of every description for use in the manufacture of automobiles, and, in fine, everything, that it will be of more than passing interest to the autoists and the makers of automobiles to be able to meet the representatives of the company and examine the fine exhibition there to be seen. The 16-inch geared head engine lathe used in so many of the shops of the makers of automobiles is probably of the greatest interest, unless it is a fact that grinders are still regarded in the light of novelties. At all events, the thread milling machine is something to take a close look at, and the "splining" equipment is of the greatest value.



On the Balcony Where Parts Makers Flourished.

Duff Mfg. Co., Pittsburg, Pa., makers of Barrett jacks in all sizes up to the jacks that handle 10,000 pounds with the greatest ease; the company is at the Garden with a fine display. The importance of good jacks is not to be overlooked, and the "Barrett" is too well known for good qualities to be regarded in any but the clearest light. Take the Barrett Junior, for illustration; it is for use on runabout types of cars, gives a clear lift of six inches, and is of a size to allow of adjusting into place with ease. The new reversing lever on Barrett jacks is a feature to be appreciated by autoists who have had to do with jacks that were not so provided. With this lever in a position to be reached with ease—and since it is long enough to enable the motorist to reach it—the troubles of reversing are no more. There is a Barrett jack for every size of car, and it can be seen at the Garden.

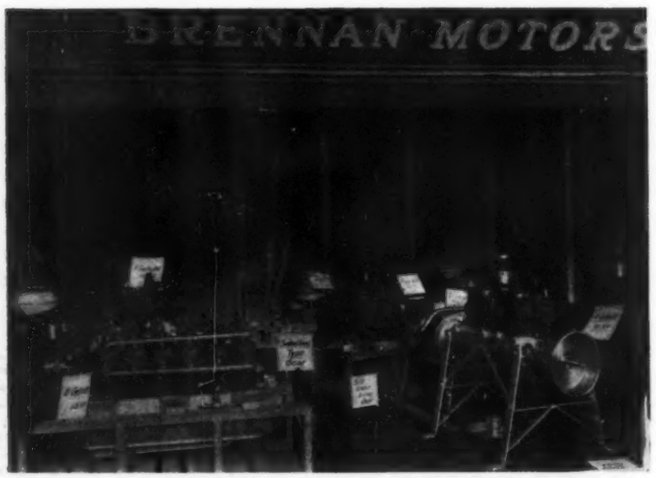
MOTORS.

American & British Mfg. Co., Bridgeport, Conn.—At the Garden this company has a line of motors such as will undoubtedly attract the notice of builders of automobiles of the better grade. While in a sense, all motors look very much alike to the casual observer, the fact remains that the motors of the make in question at the Garden look neat, are of light weight,

Shelby Steel Tubing in Every Form and Size Was Shown.

and the materials used in them are quite up to a fitting standard. The line of motors are on the conventional design, and the company will fill any requirement as to the number of cylinders. The sizes range between 22 and 60-horsepower, using four and six cylinders, depending upon the size. All the motors have a one-piece crankshaft, cylinders are in pairs, valves are on one side, crankshafts are of special steel, heat treated to afford the most pronounced kinetic qualities, and the valves are of special nickel steel. The 26-horsepower motor is with cylinders 4 inches square, and it is adapted for use in cars of the class requiring a stable power plant that does not run into weight.

Brennan Motor Mfg. Co., Syracuse, N. Y.—In the middle of one side of the balcony the very large space allotted to this progressive firm is filled with the various types of engines and transmissions built by this concern. This exhibit is unusually complete in character, including as it does one six-cylinder, three four- and one two-cylinder engine as well as a selective type transmission. The whole modern trend toward six-cylinder motors gives this engine the most prominent place and it receives as well the greatest attention. The construction of placing the inlet valve directly over the exhaust valve permits of a design which it is asserted protects the valves from over-



Engines and Transmissions from the Brennan Works.

heating, pitting, or warping, avoids unnecessary openings to the valve chambers or cylinders, avoids unnecessary large pockets or chambers, making a motor that is efficient and economical in fuel. The cylinders are individual. The inlet and exhaust valves are mechanically operated from the one camshaft. The crankcase, made from the very best grade of aluminum, carries seven bearings for the crankshaft. All bearings are made from the very best white bronze, guaranteed not to score or cut. If desired the camshaft, crankshaft, rods and pistons can be removed without disturbing the motor from its mounted position; in addition, there is the usual large hand-hole plate in the side of case for adjustment of rods, etc. Lubrication is by force feed system, pumping the oil from the oil reservoir under the crankcase through tubes running to the various bearings. The surplus oil returns to the reservoir through the overflows in the crankcase, maintaining a constant level in the case and insuring even lubrication.

LAMPS TO SHOW THE WAY.

R. E. Dietz Co., New York City.—The very complete line of lamps shown leaves nothing to be desired in the lamp line. This includes mirror lens searchlights, flare-front headlights, searchlights and square dash lamps. The line is unusually complete, and the various pocketbooks are catered to as well, lamps at all prices being shown. The principal large lamps shown are 8-inch Superior searchlights, which live up to their trade name of Superior in every quality worthy of mention. The Sterling and Sterling Junior square side lamps are of a very handsome pattern, made of the finest of heavy materials, and made to last. These are guaranteed to burn well at all times and may be had in polished brass and other standard finishes.

Manhattan Screw & Stamping Works, New York City.—One of the big problems of the lamp maker has always been the reflector; the all-glass has its faults, as has also the all-metal reflector. The manufacturer of Phoebus lamps has apparently hit upon a happy solution of the problem in the double focus reflector, which is of both metal and glass so constructed as to eliminate the poor features of both. This is designed to project the central rays horizontally, while the side rays rapidly diverge. The method in which this is accomplished is by the use of a plano-convex lens in the center of the mirror, this permitting a shorter focus than is otherwise possible. Thus the much-sought-after long central rays are projected far in advance of the automobile.

Rose Mfg. Co., Philadelphia.—The features of the Neverout patent motor and other lamps are the Mangin mirror used and the lens searchlight projector. As speaking well of the manufacturing processes in their factory and the care with which the parts are handled, all of the product is sold under the guarantee of satisfaction or money refunded. Besides a full line of all kinds of lamps and searchlights of the ordinary type, an additional line of combination headlights is made, consisting of a Neverout headlight, in combination with a patent hydro-pneumatic safety generator, the two constituting a complete outfit. These have a fine appearance as well, so as to be suitable for large and costly touring cars as well as on the smaller and less expensive machines.

SHIELDS, TOPS AND BODY MOUNTINGS.

Blue Ribbon Auto & Carriage Co., Bridgeport, Conn.—Bodies are shown here in either wood or metal to meet any requirement or taste. Especial care is given to the selection and completeness of interior fittings and equipment. There are also good examples of the latest designs in close-coupled and toy tonneaus. The company also makes cape tops, windshields and other fittings.

L. C. Chase & Co., Boston.—A complete line of waterproof fabrics for tops, etc., is shown here, in all colors and weights and in single and double texture. Lap robes and other similar articles also form part of the exhibit.

Chicago Windshield Company, Chicago, Ill.—The object of this company is to make shields to meet every possible need, and to this end a great variety of types are listed. On the latest models the glass is framed in square brass tubing which gives a very neat appearance. As side lines the company handles tire chains and a combination trouble lamp and cigar lighter.

L. J. Mutty Co., Boston.—Mutty's top fabrics are favorably known to all who have occasion to make use of such products. They have no startling novelties to exhibit, but continue to make the lines which have given satisfaction before.

Springfield Metal Body Co., Springfield, Mass.—The Springfield exhibit consists of four beautifully finished bodies of different types. There is one of the popular baby tonneaus, finished in gray with red upholstering, in which the driver's seat projects some three inches ahead of the other front seat, thus giving the driver more elbow room; the only door to the rear seat is on the right. Two touring car bodies are shown, a seven-passenger in dark red and black, and a smaller one in bright yellow with black upholstering, giving a very striking effect. A handsome extension landaulet is finished in a deep, rich green.

Vehicle Apron & Hood Co., Columbus, O.—Waterproof fabrics and the articles made from them form the subject of this exhibit. As an indication of the extent of the "Gordon" line it will be enough to mention their tire covers, both buttoned and laced, top covers, tire sleeves and inner patches, covers for lamps of all kinds and sizes, tool rolls, inner tube cases, aprons and lap robes.

EXHIBITS OF VARIOUS KINDS FOR VARIOUS USES

H. A. Allers & Co., New York City.—"Solarine" is the subject of this exhibit, and its merits are interestingly set forth. It may be used for polishing any sort of metal work, and as it contains no grit, acid, grease or poison is absolutely harmless.

A. O. Brictson, Brookings, S. D.—"Can't come off" is the claim made for the Brictson detachable tire tread. This is a protector for pneumatic tires, made of chrome leather and canvas, with steel studs on the tread to prevent skidding and take the wear of the road. It is held in place by air pressure between the tire proper and the rim.

M. H. Cormack & Company, New York City.—This company is the New York distributor for a number of accessory makers. One of the devices shown is the "Break-Circuit Auto Lock," a switch for either electric or gasoline vehicles controlled by a Yale lock with individual keys. The Fry spark plug, claimed to be practically indestructible, is a praiseworthy novelty in that it sells at about half the usual price. The company makes itself the "Cormack" combination grease and oil gun, in which the grease is expelled by a powerful, quick-acting lever device.

Commercial Acetylene Company, New York City.—Not the least of the scientific ideas advanced and proved in the past year has been that of "autogenous" welding. This is based upon the idea that a proper mixture of acetylene gas and oxygen will produce a higher temperature even than the better-known oxy-hydrogen flame. This company has a welding process which utilizes this principle, and cylinders, a crankcase and a large front axle, as well as a number of small parts, are shown which had (after breaking) been welded by this process. In addition the company is the owner of the Claude & Hess patent covering the storage of compressed acetylene dissolved in acetone, under which patent they have licensed the Prest-O-Lite Company.

G. L. Economizer Co., New York City.—The makers of this device believe that most carbureter trouble is due to the fact that the pressure in the float chamber and the suction at the nozzle are in constantly varying proportion. The "economizer" consists of an adjustable air valve or plug, which is screwed down to the cover of the float chamber and connected to the inlet pipe by two small tubes, one above the throttle and one below. A slight suction is thus created in the float chamber, holding the gasoline at a constant level in the spray nozzle. The device is adaptable to all makes of carbureters which embody a float and a throttle, and is claimed to improve the running of every kind of gasoline motor.

Hill Dryer Company, Worcester, Mass.—Of all the indispensable accessories for an automobile none are more useful than means for the proper handling of gasoline. This company shows gasoline funnels fitted with fine brass screen and a band at the top to hold a piece of chamois; also gasoline measuring cans in both the two and five-gallon sizes. Then there are the oily waste cans of galvanized iron for garages. These are fitted with a self-closing top and are riveted together so that heat will not affect the seams. They are made in four sizes, three for small or private garages, and a larger one for public garages. Any one of these sizes being endorsed by fire underwriters should be a good "buy." This firm, in addition, makes, but did not show, an automobile drip pan. It is of heavy galvanized sheet steel with a heavy steel rod inside of the rim. This latter is turned in, thus leaving no cracks around the edge. Made in two standard sizes for runabouts and large touring cars; larger sizes will be made to order at any time.

Jarman & Baker, New York City.—"The life of your tires depends on the care you give them." Many automobilists might well think over this warning, and incidentally consider the "Little Wonder" vulcanizer. The latest model of this useful little device is provided with an electric heater, which may be attached to any 110-volt lamp socket.

Leon Mann Co., New York City.—Different from the usual run of exhibitors in that clothing only is shown. The effectiveness of this is doubled by the use of lay figures, showing at once the appearance of the garments in actual use. Priestley's cravenetted cloth is shown in many varieties. These latter include Roseberry auto cloth in plain and fancy designs, and a wide range of khaki and other colorings. This fabric is woven at the famous Priestley mills at Bradford, England, especially for the automobile trade. Another strictly Priestley weave is in English mohair, also in all designs and colors. These made up in dusters or entire suits will shed dust, will not spot or wrinkle from rain, and are both cool and comfortable in warm weather.

John Lucas & Co., New York City.—Lucas "Auto-Klean" is claimed to be "the only" polish made especially for use on automobiles. It is put up in dust-proof cans, thus avoiding the danger of scratching the polished surfaces by the accumulation of dust or grit in the can.

Morrison-Ricker Mfg. Co., Grinnell, Ia.—The makers of Grinnell "Rist-Fit" gloves show a complete line of their product in several styles. For summer wear there is a ventilated glove in which the hands are kept cool and comfortable by tiny perforations across the back and fingers—too small to admit dust, but large enough to admit a current of air. All have the "Rist-Fit" feature, which consists of a strap with a special fastener to draw the glove tight about the wrist. A V-shaped piece of soft leather inserted in the cuff takes up the slack and prevents wrinkling when the strap is tightened.

New York Sporting Goods Co., New York City.—At this stand special prominence is given the Holley carbureter and magneto, and the Pittsfield coils and spark plugs, for which this company is the New York distributor. There is also shown a line of "Empire" non-sulphating batteries and "Helix" flexible shafting and wire coil belting. A novelty which should find a good sale is their rubber steering wheel grip, which consists of a corrugated casing of red or black rubber completely covering the rim of the steering wheel, with laces to draw it together on the inner edge. It should give a very firm grip for the hands.

Post & Lester Co., Hartford, Conn.—The feature of this exhibit is what is claimed to be the largest automobile horn ever made. It stands about eighteen inches high, and looks as if it had been requisitioned from the orchestra upstairs. In addition to acting as distributors for a number of other makers, the Post & Lester Company manufactures a number of specialties in its own plant. Among these may be mentioned the "Moto-Cle" wrench set, a neat-looking windshield, and a line of lamps in which the reflecting lenses are arranged to give both diffused light and a strong beam to show the road at a distance.

Supplementary Spiral Spring Company, St. Louis, Mo.—These easy riding adjuncts to the ordinary flat leaf spring are shown at balcony space No. 247 in particular and on many of the cars in the show. It is claimed for these that they prevent breaking of the side springs, eliminate all spring trouble, insure comfort and safety and save repair bills as well as tires. These are rather big claims, but on the word of a man who has used them, they are none too big. The springs are all right and should be on every car. They are so constructed as to be used in any one of a number of positions with half elliptic or platform springs at the front or rear end, above the spring end or below. Their real mission is to take out the small vibrations, the little jolts which are so unpleasant, and they do it and do it well. In no sense of the word are they a substitute for or a competitor of the flat leaf spring, but serve to amplify the latter.

Valentine & Co., New York City.—Valentine's varnishes are familiar to all users of such materials. A special color card has been brought out, showing the shades most suitable for automobile use. Special colors are also made to order.

Sure-Footed Progress as Typified by the "Ship of the Desert"—Mural Decoration in Balcony.

THINGS HEARD IN AND ABOUT THE BIG GARDEN

For the Summer Bride.—"Oh, that's for a Summer bride, and that one over there for Winter," delightedly explained a fair visitor to her escort on viewing the Packard [illegible] in bridal array, and then pointing over to the Pierce [illegible]. It seems to be taken for granted that any car with an [illegible] delicate finish, such as the Packard exhibit has [illegible] feature during the last two or three shows, must naturally be intended as a bridal car. The men take a more practical view of it, but their comments are equally interesting, as note that of the man who said he'd be jiggered if preparing an automobile show exhibit had not been raised to the grade of an art when even the tires on the Packard "bridal" and the Packard show chassis were specially finished to carry out the effect made by the rest of the machine.

Every Man His Own Designer.—When it comes to buying a Studebaker car, "Every man is his own designer" where the matter of body design and finish is concerned, the Studebaker line being the furthest removed from standardization imaginable in this respect. This may easily be noted by glancing at the cars forming its exhibit. No two of them are alike and none of them is exactly like any other car to be seen on the floor. The greatest novelty in body design to be found in the show is the Studebaker suburban with its four-seated body of curly maple and wickerwork, while the brocaded satin interior of the Studebaker limousine, which is a study in nile green, is another of the artistic *pieces de resistance* of the show whose list price runs up into five figures.

Knox Exhibit Comes Over the Road.—"Just see what we lose by not having a wideawake publicity man," said a disgruntled attache at the Knox exhibit. "Everything in our big commercial exhibit down in the basement came over the road in midwinter, all the way from Springfield, Mass., under its own power, and no one has even heard so much as a peep about it. With snow and ice on the ground and the roads badly cut up, a run of 150 miles by commercial cars carrying overloads ranging as high as 50 per cent beyond their normal capacity is something worth while talking about, even in this day of record performances. Why, one of our 3,000-pound light Knox trucks brought a load of 4,800 pounds to the show all the way from Springfield without so much as hesitating once on the road."

Trail of the Non-Skid.—To judge from the tire equipment of many of the cars at the show, "the trail of the Firestone non-skid will be over the land" during the coming season, and as every turn of every wheel on the car prints its message as it rolls, the trail will be an unending one that will not be difficult for the initiated to decipher. If Firestone non-skids didn't become too common it might be a good idea to use them on a pacing car or guide instead of the usual confetti, was the suggestion offered by one observer. And it is one of considerable merit for the letters on a new Firestone non-skid tread are raised in such a manner that a clear and easily readable imprint is left on anything but the very hardest of roads.

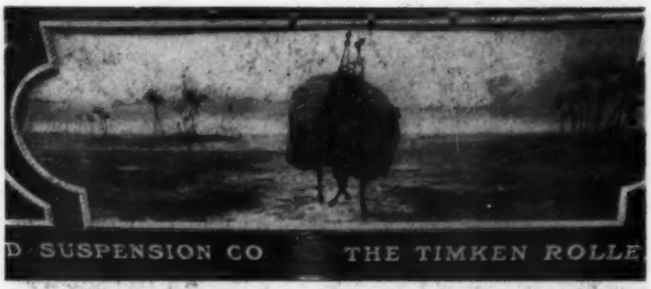
First Sale of the Show.—The honor of having made the first actual sale of the show is claimed by the Chalmers-Detroit forces, and that there is considerable merit to the claim is to be seen in the fact that the sale was made almost before the show was well under way. According to Treasurer Roy D. Chapin, of the company, the Chalmers-Detroit sales forces also expect to make another record by selling the largest number of cars during the entire week. The question, "What is the Chalmers-Detroit made of?" is well answered by the sectional chassis which is shown in action at the booth and forms one of the main points of interest of the entire main floor.

Walter Thompson.—The Philadelphia Storage Battery Co. has a fine display of storage battery equipment for electric vehicle work under the trained direction of Walter Thompson, who reports a good demand for batteries, and it is worthy of note that the batteries of this make include light, medium, and relatively heavy plates, for use under the different conditions to be satisfied. The heavy plates, so called, are not heavy in the sense that they are related to stationary battery plates; they are simply heavy enough to handle certain classes of electric vehicle work in which high rates of discharge do not have to be considered and the life of the battery is prolonged.

The Cadillac Crowd.—"What's the crowd over there?" was the first question the average visitor asked when half-way on the first round of the main floor to the right he came in sight of the mass of people at the Cadillac booth. And just as a crowd draws a crowd, every one who saw the aggregation there immediately hastened to add his presence to it. But unlike most curiosity seekers, those who were thus drawn stayed to have the details of the new Cadillac "Thirty" made plain to them before getting away again, so that there was always a crowd about the Cadillac exhibit usually so thick that it was next to impossible to find any one connected with it.

The Man from Maine.—The E. T. Burrowes Company is adequately represented by C. H. Calkins, who takes a wide interest in the advance of the industry along conservative lines, and among other things looks in on the doings of the Society of Automobile Engineers when the opportunity affords.

Dog and Fuel Can Have Since Changed Places.



A Walking Commercial Car from "Afric's Sands."

Presented Plate to Selden.—At a luncheon Tuesday noon at the Prince George Hotel, E. L. Thomas, of the Thomas Motor Company, presented George B. Selden with the Selden license plate from the victorious New York-to-Paris car. Mr. Selden made a brief reply, telling of his experiences in constructing the first engine, and compared the round-the-world trip to that of Magellan who circumavigated the globe. Others who spoke were George Schuster and Fay L. Faurote, of the Thomas company; W. H. Humphreys, of the New York *Evening Post,* and Richard Bacon, Jr., of the Haynes Automobile Company. Dr. C. G. Percival made an efficient toastmaster.

The Pierce Boudoir Car.—It did not take the fair sex long to christen the Pierce Great-Arrow $12,500 creation of art. "Why, that's a real boudoir," exclaimed one of its early admirers, and it has been known by this designation ever since. To add that it is the *piece de resistance* of the show as a whole is to put it mildly, for a current quotation was, "You haven't seen the show unless you take in the Pierce beauty." It required a goodly part of the time of several of the attendants at the Pierce exhibit to explain the details of the artistic interior.

Will Not Discontinue Steamer.—One of the annual reports and one that crops out each year at show time, is about due to appear now. According to Windsor T. White, of the White Company, this is the usual time for the rumor to circulate that the manufacture of steamers will be discontinued. This nine-year-old rumor never fails to show up, and this time the White Company is discounting it and its effects by denying it in advance. According to President White, the company has no intention, plan, nor inclination to discontinue the White steamer.

Continentals for Hotel Decorations.—Probably the last place in the world where a person would look for automobile tires is in a swell hotel. Yet the automobile's indispensable footwear will be found in at least one New York hotel, the Astor using them to complete the decorations for show week. These tires have been selected because of popularity, which those who sell them insist is due to the great mileage and constant satisfaction afforded to owners.

Doings at the Simplex.—In East Eighty-third street, New York City, the Simplex Automobile Company, is making preparation to fill the orders which are sifting in from the Garden, and G. E. Franquist, the designer of their well-known car, reports everything in order for a busy year. In addition to the cars of this well-known make, the designer has well in hand all the special gigs, tools, dies and fixtures to assure good results from high grade materials on a basis taking into account accuracy of fit, and, what is more to the point, the perfect duplication of parts.

The Timken Roller Bearing Company.—The average spectator at the Garden is curious to know what the "big" front wheel knuckle is for. Many of them reach the conclusion that it is just as a sample of the bearings. They overlook the fact that in trucks it is not easy to steer if the knuckles offer much resistance to turning. The Timken plan is to provide roller-bearing knuckles in places of this sort. The new 1,500-pound Timken front and rear axles are attracting more than a little notice. They look quite up to the standard known as "fit," and bear the earmarks of careful construction.

Interest in the Exhibition.—The best way to prove the absorbing interest in the Garden and its contents is to go there during the hours when it would be reasoned that the patrons would not be there. Surprise waits the experimenter, for as a matter of fact there is no time during which the Garden is depleted of a vast count of spectators. Naturally it is reasoned that the real buyers try to have a good look at the cars [illegible] a time when the spectators are in less presence. The trouble is there are so many of them "on the same tack."

The Chalmers-Detroit in Action.—A stop at the booth of this company was of more than usual interest due to the fact that the exhibit had a motor turning over, and it was in section to show the working of the Chalmers-Detroit ideas. It was explained how a motor can be short, thus leaving the body with more room. It was pointed out how a crankshaft can be with two bearings and be the better for it. On the whole it is a quarter of an hour that could not be expended to better advantage.

Decorative Scheme Above the Accessory Makers—Suggestive of Primitive Transportation Methods.

Concert Hall—An Aisle in the Accessories Section.

A Queer Car Starter.—"How on earth do you manage to start your car with that thing?" asked a puzzled inquirer of one of the attendants at the Winton booth, referring to the small brass cap employed to keep dirt out of the opening for the crank, which on all Winton cars is carried in the tool box. He had first taken hold of this small projection and after vainly trying to turn it, had given up and sought information. He went away considerably enlightened after being initiated into the mystery as well as the delightful convenience of the Winton self-starter. One of the Winton cars is a magnet for those who have to see, smell and feel everything in order to satisfy themselves of its identity. This particular car is a Winton six-cylinder roadster with a delicate cerise finish, the upholstery being of a tint resembling very closely the ordinary aluminum paint. The result is that every one who comes anywhere near the car goes up to it and rubs his finger on the leather to see if the finish will come off, affording no end of amusement to the Winton attendants.

Peerless Shows Its New Metropolitan Home.—"Yes, it is something that we are proud of and something that New Yorkers can take pride in as well," said L. H. Kittredge, president of the Peerless Motor Car Company, referring to the architect's water-color drawing of the façade of the building now under construction for the New York branch of the Peerless company at Fifty-seventh street and Broadway, directly adjoining the Tabernacle. In fact, the building is L-shaped, and surrounds the latter structure, having a frontage of 75 feet on Broadway and of 25 feet on Fifty-seventh street. It is to be nine stories in height, and will be one of the most prominent landmarks along automobile row. Speaking of its completion, Mr. Kittredge said that his company expected to be able to occupy it at the opening of the selling season for 1910, or about September next.

Explaining the Two-Cycle.—It would seem from many of the remarks heard in the vicinity of the Elmore booth that a great many people have still to learn something, if not a great deal, about the gasoline motor, if their knowledge of the simplicity of the two-cycle motor may be taken as a criterion. Many apparently have no idea whatever what the term "two-cycle" means at all, and the attendants at the Elmore exhibit are kept busy showing, by means of the sectional chassis of the Elmore car on view, just what the functioning of the motor is and how it compares with the four-cycle motor. But few of the visitors fail to be impressed with the great lack of small moving parts that characterize the Elmore motor, once the method of its working and the extreme simplicity of its design and construction are made clear to them.

Another Unusual Exhibit.—Where so many unusual features were present it was only a matter of looking around to find still another. At the Stearns exhibit was shown a toy tonneau that took very well with the ultra-critical crowd. This was finished in gray with black striping, while the upholstering was in natural kid with no tufting. The effect was very pleasing and the extra seat on the running board for the chauffeur received favorable mention. The small limousine or town car on the 15-30 chassis is a well-worked-out replica of the larger and more luxurious cars. Sales Manager Charles B. Shanks occasionally took a hand and told a customer Stearns points in a way that was convincing.

"Who's This Pope Toledo?"—"Who's the present Pope?" asked one Hibernian visitor of another at the show. "Pope Pius the Tenth," was the ready answer of his companion. "Well, who'll be the next Pope?" came the query. "And how can I tell that now?" "Well, what's all this Pope Toledo and Pope Hartford we're hearing so much about? Do they come from Rome?" The story has been going the rounds of the show and affording no end of amusement for the attendants at the exhibit of the Pope Toledo. Needless to add, they have been doing their share to keep it in circulation.

Connecticut Spark Coils.—Just as a reminder of the quality of "Connecticut," the Connecticut Telephone & Electric Co. is handing out to its friends and patrons a "diary" for 1909, the quality of which is quite up to the quality of the ignition devices of this company. E. C. Wilcox, of the firm, who attended the meeting of the Society of Automobile Engineers while in town, reports that orders are directed to Meriden, Conn., on a basis quite up to the best expectations, and that the factory is extremely busy in consequence.

Thomas Cars Could All Go Round the World.—The Thomas New York-to-Paris, or as it is now styled, round-the-world car, attracted many who had not previously seen it and many more who went for a second and third look. At the Thomas exhibit Advertising Manager Fay L. Faurote stated that every one of their cars is built good enough to repeat the performance on just as short notice if the necessity should arise.

Advertising Managers Are in Evidence.—Most of the managers of the advertising departments of important concerns are more or less in the big Garden. The list includes such well-known experts as E. Ralph Estep, of the Packard; C. W. Mears, of the Winton; R. H. Johnston, of the White; Fay L. Faurote, of the Thomas; E. LeRoy Pelletier, of the E-M-F and Studebaker; and George Davis, of the Pierce.

Press Agent Jervis on the Job.—Though not feeling as fit as he would like to be, A. N. Jervis, the dean of press agents, is pluckily sticking to his job, but after the conclusion of the show will take a well-earned rest. He says that the demand for "courtesies" has far exceeded anything of the sort that he has ever encountered before, and the excuses offered why press tickets should be supplied range from the sublime to the ridiculous.

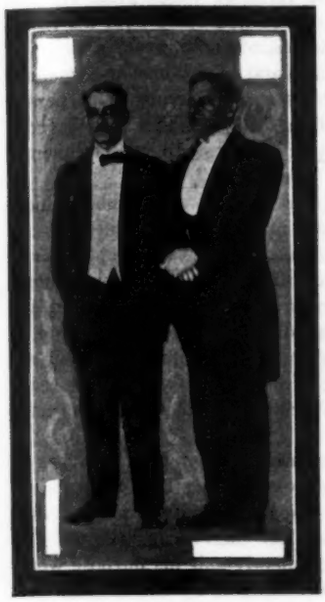
FIRST ANNUAL DINNER OF THE M. & A. M.

Last night at Delmonico's the first annual dinner of the Motor & Accessory Manufacturers was successfully held. Job E. Hedges filled the position of toastmaster in his usual flexible manner, and the speakers included ex-Governor N. J. Bachelder, of New Hampshire, Master of the National Grange; William H. Hotchkiss, president of the American Automobile Association; Charles Clifton, president of the A. L. A. M.; Benjamin Briscoe, chairman of the A. M. C. M. A.; H. E. Raymond, first vice-president of the M. & A. M., and A. G. Batchelder, of the Class Journal Company. President H. S. White, of the M. & A. M., introduced the toastmaster of the occasion.

The complete report of the banquet will be given in THE AUTOMOBILE of January 28.

HONORED THE MAYOR OF SAVANNAH.

Tuesday night at Delmonico's, newspaper writers from New York, Boston, Philadelphia and Chicago, who were at Savannah, together with a hundred others prominent in the automobile industry, gave a midnight supper to Mayor George W. Tiedeman, of Savannah, and J. A. G. Carson and Harvey Granger, president and vice-president, respectively of the Savannah Board of Trade. F. C. Battey, president of the Savannah Automobile Club, was a regretted absentee, as was also W. J. Donlan, secretary of the Chamber of Commerce, who gave particular attention to the newspaper writers at the time of the Grand Prize race.



Savannah's Pair.

Mayor George W. Tiedeman and President Frank C. Battey of the Savannah Automobile Club.

E. H. Broadwell and T. F. Moore were responsible for the excellent arrangements for the supper, which included several novelties, and wound up with a vaudeville entertainment. Arthur Brisbane, the well-known editor of the New York *Journal*, filled the role of toastmaster, though John C. Wetmore made one of his usual taking "fireworks" speeches in welcoming the visitors and introducing Mr. Brisbane. Mayor Tiedeman spoke on the "New South"; Mr. Carson's topic was the "Commercial Development of the South," and Mr. Granger said that Savannah wanted another race. And then followed the festivities, which continued until Fifth avenue was deserted.

The list of those present included Chairman Robert Lee Morrell, of the A. C. A. Contest Committee; N. H. Van Sicklen, of Chicago, ex-chairman of the A. A. A. Technical Board, who figured in the successful outcome; and F. J. Wagner, who started the cars on their 400-mile journey.

QUAKERS THINK BIG CARS MAY BE SCARCE.

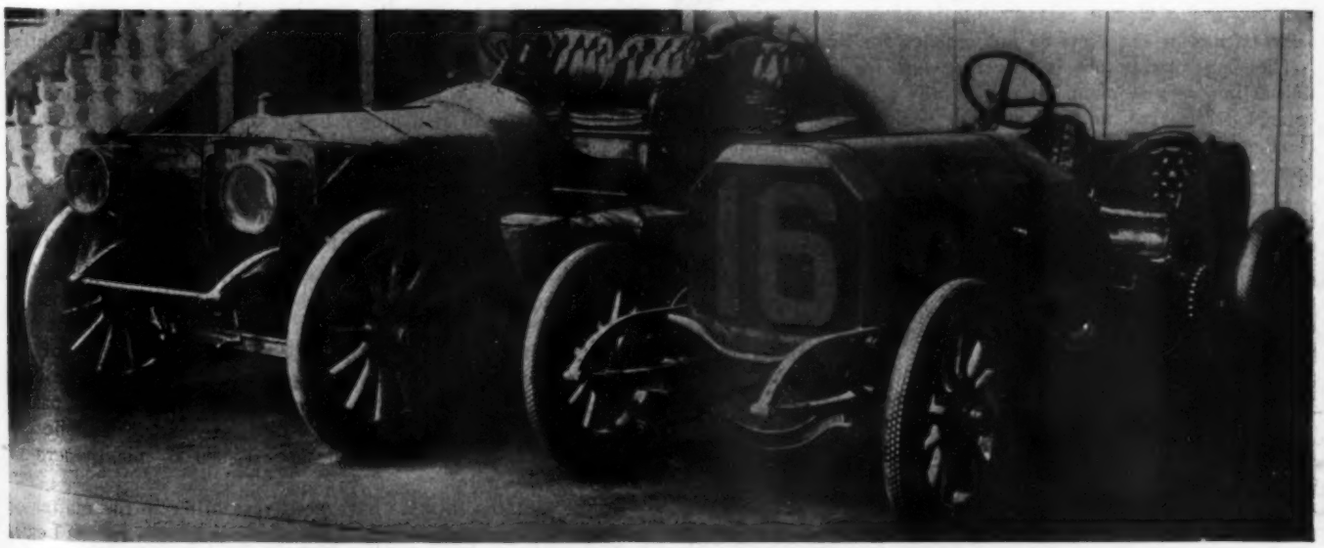
PHILADELPHIA, Jan. 18.—"Is there to be an actual dearth of cars to fill orders during the coming year?" is the anxious query of not a few of the local "Row" men. Archie Hughes, of the hustling firm of Foss & Hughes, representatives of the Pierce-Arrow, E-M-F "30," and Knox commercials, thinks there is bound to be, and quotes cold figures to prove his claim. "Last year," said Archie to THE AUTOMOBILE representative, "we placed 152 cars, mostly Pierce-Arrows. It was a bad year for most automobile concerns, but with the boom started in mid-November to help out, we came under the wire a winner on the year's business—not by a big margin, it is true, but still a few to the good. In early Fall, while conditions were still bad, we made our arrangements with the Pierce people for the present year. Everybody was conservative to the limit. We shaded our demands about 20 per cent., and the factory people, having the then existing depression in mind, suggested a still further cut. Of course we acceded. The quota of Pierces of all models allotted to us was just 97, and it looked big then. Prayers and petitions to the factory met with little success. We have written every Pierce agent from here to Jericho offering to take all 1909 Pierces they can spare off their hands at once, but have found that in nearly every instance the other agents are in the same fix as we are. Conditions are now so good that had our present allotment been doubled, we would have little difficulty in disposing of them. Yes; I certainly think there is going to be a scarcity of high-grade American cars during the present year."

The claims of Mr. Hughes are borne out by the statement of Sales Manager E. C. Johnson, of the Keystone Motor Car Company, Packard agents. That concern's 1909 quota of Packards is practically exhausted, and while a lucky chance may throw an additional car here and there into their hands, there is no prospect of such a substantial addition to its allotment as would permit of filling all demands. Other habitues of the "Row" are sending up the same plaint, from which it may be gathered that the demand for high-grade cars during the present season will exceed the supply to such a degree as will compel the makers to boost their 1910 output figures to a marked degree.

W. K. V., JR., RIDES ROUND SAVANNAH COURSE.

SAVANNAH, GA., Jan. 18.—"A great automobile course. Those grandstands are just right." These are the opinions of William K. Vanderbilt, Jr., donor of the world's famous Vanderbilt cup, as expressed by him after driving over the automobile course in a big Packard driven by Roy A. Rainey.

Mr. Vanderbilt, who is staying some time at the Winter home of Mr. Rainey, in Bryan county, where he is passing his time away by fishing and shooting, came to Savannah to take a ride around the automobile course where the largest race was ever held, this being the first Grand Prize race. Mr. Vanderbilt went away from Savannah with a good impression, and stated that Savannah should have a big race every year.



Two Champions—Thomas Round-the-World Car and the Locomobile Vanderbilt Cup Winner.

DETACHABLE AND DEMOUNTABLE RIMS DISCUSSED

By HERMANN F. CUNTZ, M.E., A.L.A.M.

THE question of rims for automobile tires is to-day a very important item. Until a few years ago there was still uncertainty in the minds of many as to whether the pneumatic tire, substantially in its present form, had come to stay or, on the other hand, whether it would be superseded by something radically different. To-day the practical men of the industry give little heed and waste no time on the idea of radical changes. For the large class of automobiles now in use the pneumatic tire is evidently the means par excellence of supporting the vehicle on any kind of road. A small percentage of automobiles, such as slow-going trucks, are better equipped with solid tires, but here the rubber tire still reigns supreme and gives promise of continuance.

Having this main problem disposed of, and it might be said settled by usage, the manufacturer has turned to the question of ready repair, and in the case of the large heavy automobile tire, this, after various vicissitudes, has settled down to the question of quickly removing the tire and repairing it or replacing it. The replacing has, in fact, become essential because of the increased use and the great prospects in the near future of automobiles for service where "time is money."

Having narrowed down to the replacement of tires, the question has been one of taking the tire off and putting a new one on and inflating it or carrying an extra ready-inflated and equipped with a rim so that it can be substituted for a deflated tire in the quickest possible time. The question of quickly removing tires or rims and replacing and blowing them up has involved the design of innumerable quick detachable rims. The entire replacement of a ready-inflated tire has involved the question of demountable rims which can also be quickly remounted upon a wheel. It is true that a great variety of devices and designs have sprung from the fertile brain of the inventor, involving such ideas as complete replacing of a wheel, as well as the attaching of a separate tire and rim without taking off the ruptured or injured tire. But for the present and for general consideration, the quick detachable rim and the demountable rim are the practical, live problems of mutual interest to the tire and automobile manufacturer at the present date.

The quick detachable rim is now being thoroughly tried out in several forms, any one of which promises to establish superiority which will be recognized in due time by its general or possible universal adoption, a millennium in this detail of the multitudinous ramifications of the industry, which is looked forward to anxiously by all, including the 200,000 and more users of automobiles in the United States, and frequently more desired by their friends or the users of automobiles for hire.

The demountable rim is therefore left for prime consideration at this very moment. It is generally accepted that the quick detachable tire has its field and the demountable tire its field. It is possible, however, that some very advantageous combination of the two will be the solution of the vexed problem.

Years ago in the bicycle days, when the question of cushion tires or pneumatic tires was the live issue, the single-tube tire was supreme and the question of securing it to the rim received much time and study; in fact, the exact nature of the shellac used to attach these tires to wooden or other bicycle rims and the method of attaching them were considered valuable items in the knowledge of bicycle construction. The clincher tire in those days received little more consideration than a double-tube tire, with an outer casing attached in much the same way as a single-tube tire or hose pipe.

In 1899 the construction of numerous heavy automobiles caused a sudden activity in the development of very heavy pneumatic tires, which resulted in such stiff walls and beads in clincher construction as to necessitate the development of attaching means to readily handle replacements and repairs. Constant development, however, has resulted in a deep-seated belief in the advantage of the simplest form of single-piece clincher rim, a band of metal with each edge turned up to hold the clinch or bead of the tire casing and the use of some means which will securely hold that rim on the felly band of a wheel in a manner which will be, in the first place, secure, secondly, will permit ready removal, and, thirdly, will be simple and cheap in construction and not involve numerous small parts, frequently termed by the practical man as "gimcracks."

But even in the demountable rim there is some subclassification which has become recognized, in view of the different use of vehicles. A racing machine involves in its demountable rim the above itemized requisites, but the ready removable feature must essentially be the quickest possible. On the other hand, for general pleasure use the difference of a minute or two is not so important as a construction of demountable rim which will not stick, or, as it is usually termed, "freeze," but will permit ready removal even after a rim has been on a wheel one or many months without any attention.

The racing of automobiles has brought about many types of quick demountable rims, but the details essential for quick removal have not always afforded the best results for other class of use. Furthermore, a racing car driver is essentially a mechanic, and a tire that would eminently suit his purpose would not necessarily be the most readily handled by the average user of automobiles. All these considerations, and others too numerous to mention in this brief review of the subject, have now brought before the public at the automobile shows of 1909 a startling variety of structures, in almost all of which there are one or more features of unquestioned merit. It would appear from the time and money that have been spent on the problem that the early part of 1909 is likely to see combinations of the several meritorious features of different designs, to produce a generally, or even universally, accepted form of demountable rim. On the other hand, the indications would leave one conversant with the dreams of many inventors to believe that there is still the possibility of a form of demountable rim quite different from the attempts of the past presenting itself.

It is generally understood that before the end of the Garden show the public, as well as the automobile manufacturer and the tire-maker of the country, will have before them no less than a dozen or 15 forms of demountable rim, more or less tried, from which one or two quasi-standard designs may be adopted and come into general use.

In addition scores of designs on paper have been considered and are in process of development or have been found wanting in merit and discarded. The solution, it is firmly believed, will be the combination of the simplest possible design suitable primarily for general as distinguished from racing use and then the perfection of that design by those skilled in the manufacturing and commercialization of a structure of this character.

NEW JERSEY FARMERS JOIN THE AUTOISTS.

TRENTON, N. J., Jan. 18.—Now that the farmers themselves have taken to the automobile both as a business proposition and for pleasure, they realize that the automobile laws of this State are not what they should be. The new attitude of the farmers made itself manifest at the closing session of the New Jersey State Board of Agriculture, when it unanimously passed a resolution asking the Legislature to amend the automobile law to cover the recognition of licenses issued to the owners of cars in other States.

In the past the farmers have been very bitter in the matter of automobile legislation, which is one of the reasons why the Legislature has not recognized outside licenses for touring.

IMPRESSIONS OF AN AUTOMOBILE ENGINEER

By HOWARD E. COFFIN, Chairman Committee on Tests, A. L. A. M.

IMPRESSIONS of an engineer? Yes, there are plenty of impressions—good ones—mixed with not a few that are bad and a great number that are decidedly indifferent.

Visiting for the first time the great international shows of London and Paris, the most lasting impression on the engineer comes from a realization of the immensity of the industry, of which he is an infinitesimal factor; of its financial investment and its limitless possibilities.

Howard E. Coffin.

Of course, after following these shows from year to year, this first general impression is considerably tempered, or seasoned, by a more intimate knowledge of foreign methods and trade conditions. The possibilities, present and future, are in no way dimmed, but it is soon learned that in foreign markets "all is not gold that glitters," that the highly-polished chassis and the elaborately decorated stands are frequently for form in keeping with the business and manufacturing status of the concerns they represent.

The American engineer who spends some length of time abroad, with his eyes and ears open, will feliciate himself on being an American and be glad that since he must build motor cars he can do so with the aid of the highest development of factory, manufacturing and machine-tool practice in the world, and with the very comfortable feeling that after the cars are built they can be disposed of in a home market that is a safe and steady one, dependent in no way upon the uncertainties of unfair competition or the whims of the tariff reform of any other country.

The A. L. A. M. Mechanical Branch.

The average foreign engineer has little opportunity to rub elbows with his kind, at least publicly and with the approval and support of his employer. Such American organizations at the Mechanical Branch (the body of engineers of the A. L. A. M.) or the Society of Automobile Engineers find no parallel in Continental Europe, or even in Merry Old England.

Not very many years ago, here in the States, it was practically impossible for a member of the engineering staff of one concern to pay a visit to the works of a competitor, unless he went in disguise or under false pretenses. What a difference now, when a visiting engineer is freely, courteously and willingly shown through every nook and corner of a competitor's plant, and sent away with the feeling that the "latch-string is always out." A comparison of this attitude with the spirit of suspicion that pervades the atmosphere of the foreign shops and management shows a mounment to the progressive spirit of the American industry that is chargeable directly and indisputably to the first of our organizations of Motor Car Engineers, the Mechanical Branch of the A. L. A. M.

Even were the accomplishments of this body limited to this one result, the far-seeing policy of its founder (George H. Day, then general manager of the A. L. A. M.), would have been more than justified.

In the interchange of ideas lies the true source of progress; and the American engineer (and with him the American car) is as sure to excel the European as that the day will follow the night. Nor is this time in the distant future. If the development within the industry for the past ten years in France, Germany, Italy, England and the States be represented by curves, it will be found that the crossing of the lines has been reached. Yankee genius may be depended upon to see to it that the curve of American progress is never recrossed.

We see much in the press, particularly the foreign press, covering the doings of the Automobile Club of France and the Royal Automobile Club of England. I have the assurance of those who are familiar with the proceedings of these bodies that the American engineer has in fraternal joint work accomplished more, and will accomplish more, than has been or ever will be possible to his Continental brother, hemmed in by centuries of usages and traditions from which he cannot hope to emerge. In Paris, a year ago, the beardless chief engineer of an American factory, the product of which commands a leading place in the American market and the respect of even the foreign maker, excited great comment. Concerning him, I had said to me: "You Americans put so much confidence in young men! Why, we would not think of making a man a chief engineer, no matter how much he knew, until he was such and such an age," etc.

Impressions of the 1909 Foreign Shows.

The designer's impressions, to be gained at the '09 shows of London and Paris, must of necessity be flavored with some disappointment. In some instances so little change was to be found over the models of the previous year, that the same catalogues were used without change of either text or illustration. An explanation advanced by one exhibitor was that his product having arrived at absolute perfection it was obviously unnecessary to change his catalogue—an answer perhaps not altogether in accord with the reports of overcrowded stockrooms and over production.

In a few instances decided improvements in detail, in accessibility and in progress of design were to be seen.

As a case in point, a clean-cut, small four-cylinder car, in which all parts likely, under normal conditions, to need the attention of the operator could be dissembled and reassembled by hand without a tool, is worthy of mention.

But in many cases, almost in retrograde, a departure was to be noted from the clean-cut construction of former years, and seemingly unnecessary parts and complications were introduced.

Rumor has it and observation and figures would seem to bear out, that the state of the foreign market is not such as to encourage progress and the development of new features.

As has been said many times in the press, the small car easily "led the field" in point of public interest and in number of sales. Scarcely a maker that has not announced a low-priced, medium-powered car of either one, two or four cylinders for 1909. A few small sixes were in evidence. Such concerns as Fiat, Delayhaye, Martini, Lancia, Clement, Hotchkiss, Delauney-Bellville, Darracq and a dozen others exhibited small cars of excellence.

Cylinder Construction and Crankshaft Bearings.

Almost without exception, the motors of these cars has cylinders of en bloc construction (four cylinders cast together). Both two and three-bearing crankshafts were in evidence; also the use of annular ball and plain bearings upon the crankshafts. One well-known foreign engineer has stated that above a 4-inch bore it is not advisable to employ annular ball bearings for crankshaft work. Below this figure such sizes of ball bearings can be adopted, structurally and commercially, as to give perfect satisfaction. Hence the discarding of the use of annular ball bearings upon some of the larger motors such as Mercedes and Hotchkiss and the adoption and retention of such bearings upon motors of smaller sizes.

Even among the small sixes and larger fours there were to be seen examples of en bloc cylinders, notably the Delauney-Bellville, Deasy and several others.

In spring suspension, the three-quarter elliptic rear with the usual one-half elliptic front reigned supreme on all new models, and almost universal attention was shown to the proper lubrication of the eye and shackle-bolts.

Pressed steel frames are generally heavier than used in America. Axles worthy of mention were the Lancia pressed steel front and the Fiat pressed steel rear casing.

Other axle, radius rod, torque rod and structural details generally were as frequent and variegated as the number of cars of the exhibitors. One car, such as the Hotchkiss, of acknowledged reputation and worth, shows a rear construction, in which all torque and car-driving strains are absorbed directly by the rear springs, whose front ends are anchored rigidly against the frame.

Perhaps as a next door neighbor would be found a car of equal reputation but equipped with radius rods, torque rod or tube (possibly two of them) and all the paraphernalia in any way excusable in such a connection.

The transmission problem would seem little changed, except perhaps for a tendency toward the progressive type on the smaller cars, retaining the selective for the larger models.

Clutches, as before, are cone, multiple disc, contracting and expanding band, metal-to-metal, leather-to-metal and Maverick. Certainly the simple cone type is at least holding its own.

European Fast Small Cars.

Reverting to the small car matters as being of considerable immediate interest to American constructors, upon the face of it, taking into account the extremely high speeds made in recent foreign small car races, it would appear that there exists abroad some magical touch of design, materials or construction, for in advance of anything American.

The real facts, however, are not by any means so discouraging. In the first place, we must remember that the character of European small car contests has been very different from anything over here. Here, except in the case of the last Savannah event, every effort has been put forward to limit the contesting cars to a construction at least approximately in accordance with the regular stock product of the manufacturer entering.

Even at Savannah, where leeway was given the maker along lines of special construction, insufficient time was allowed between the dates of the announcement and the running of the event to permit of the design, construction and test of any special racing car.

It must be remembered further in connection with this event that for six or eight weeks the organization controlling 90 per cent. of the contests throughaut this country was holding over the head of each individual manufacturer the threat of disqualification should he permit a car to be entered.

The Savannah Small Car Race.

Glance for a moment at the Savannah result—a foreign car of a make perhaps acknowledged abroad to be the equal of any car there built—this particular car, a special one, built for racing, lightened even to the extreme extent of frame drilled full of holes, fresh from tests and trials in England, and sent here in perfect condition in ample time to work out over the course—this car in a distance of 196 miles and a total elapsed time of 3 hours 43 minutes 33 seconds, gained a total of 6 minutes 12 seconds over its next competitor, an American stock chassis, and 10 minutes 22 seconds over its next competitor, also an American stock chassis. It is a matter of record how much delay from tire and other trouble was experienced during the race by the three cars. The behavior of the other foreign cars is also a matter of record.

It is conceded that the winning car ran a beautiful race. It must also be conceded that the American cars finishing second and third were both faster than the winner, and that their delays were occasioned by insufficient or improper preparation, in one case at least (the third). It must also be considered that to make the third car eligible in the event it was necessary to reduce the bore of the cylinders, which was done without in any way lightening the stock chassis to keep pace with this reduction of power, all of which must have very materially affected the result. However, this car made the fastest lap (56 miles per hour), was in better running condition at the end of the run than at the beginning and was immediately entered in other events in the South without the least overhauling.

The race was a fair one and was closely contested, the result being in doubt almost to the finish. A little bad luck with tires, and the result might have been different.

A good car well driven won the race. But because this car happened to be a foreign car it is the height of folly to conclude that all foreign stock small cars are superior to the similar product of America. The study of foreign small-car events will show that fully as many cars go down-and-out owing to troubles, minor and major, as in any similar American contest. I do not refer particularly to races, but to contests of all characters.

Freak Small Cars.

As to the construction of the small cars with which phenomenal speed has been developed abroad, the car that was booked to win the "4-inch race" on the Isle of Man had, of course a 4-inch bore, but an 8-inch stroke.

An accident, chargeable to the great speed of this machine, put it out of the running. Other cars have even longer strokes; for instance, the single-cylinder one which averaged better than 65 miles per hour for 100 miles on the Brooklands track was of 4-inch bore and 10-inch stroke.

One of the rules under which American contests have been run during the past year has been that the entrant must stand ready to sell the entry at the end of the race, for the regular price of the stock model of which the car entered is supposed to be a duplicate. It is interesting, as illustrating a far removal from stock properties, that the car last mentioned (there were three of them built) was quoted for sale at a figure in thousands that did not fall far short of the price of the real stock article in hundreds.

These special speed machines are admittedly impossible for stock models. Cars of this freak construction will run just as fast and can be constructed just as easily in America as elsewhere, but piston speeds of from 3,300 to 3,500 feet per minute, the employment of special oils for lubrication, and valves that are nearly as large as the cylinder itself are not factors that can enter into the healthy growth of the stock gas engine for general public utility. Even the makers of these machines shrug their shoulders at the suggestion of such a thing. Extreme vibration, high compressions, lubricating difficulties and a hundred and one other factors render unfit for public use a single-cylinder engine of 4-inch bore and 10-inch stroke, for which an output of over 30-horsepower can be claimed.

American Material and Workmanship.

The matters of material and workmanship do not enter into this equation at all. We have the finest workmen in the world in America. They are not merely machines perfected in the performance of certain labor, but have the advantage of the knowledge that a lively exercise of their brains will be appreciated by their employers. Nowhere in Europe can be found the "suggestion box" or any other of the several systems common to American shop practice, and through which is added to the mutual benefit of the employee and the employer the advantage of the observant eye and the active brain of the "man behind the bench."

We have seen in the past, much money spent by those allied with foreign interests, on the theory that even if the American manufacturer knew what material was right and proper (which was doubtful) and even if he did have this knowledge and chose to use it (which was beyond belief), that he would still be met by the insurmountable difficulty of not being able to get in America the proper metals. Admit, if you like, that in years past, there may have been ground for such statements. It is only natural that in countries such as France, where the motor car first saw commercial progress, that the question of materials should have received early attention. But the above noted theory is now an exploded one. It is my experience that for the season 1909, the American maker knows more in a minute about the quality of the steel in his product than the continental manu-

facturer does in an hour. Abroad, experiments and tests are made until a grade of material is found that will endure in the place it is desired to use it. This sample is then O'K.'d and the steel maker is asked to furnish material according to it. The French designer does not pretend to know the properties, the peculiarities or the chemical analysis of this material; he merely knows that it does his work. The American engineer and frequently the American purchasing agent, must have in his hands all data, physical, chemical and commercial, before an order for any certain material is placed.

Whatever may have been the conditions in the past it is with the present and the future that we have to deal; and the American motor car constructor has ready at hand and subject to call, in this country the equal, if not the superiors, of any of the metals of the world.

It is not in keeping with the spirit of American supremacy that the employment of such materials should be deliberately avoided by our motor car builders.

American Makers Depend Upon Experience, Not Racing.

In the big car classes, the American car has been at a disadvantage in that road racing here has never to any extent occupied the attention of the manufacturers, the American makers, generally speaking, being content to enter the stock chassis of the current year's model against the specially built foreign racing cars, driven almost invariably by men retained on yearly salary for this purpose alone, and whose experience should make them blush to "take candy from a baby"—by defeating the American drivers and cars put up against them.

In saying this, I do not reflect upon the nerve and good intentions of the American driver or the excellent American racing car; they have thriven phenomenally considering conditions here, and proven their surpassing merit in some international large car contests. With the right racing regulations, a large number of splendid, fast American racers would be built and their performances prove the mettle of the American designer in a more impressive and conclusive manner than ever before.

The point I make is that the foreign driver and the foreign racing car have been produced in an atmosphere that never has and never will exist fully in this country of stock car events and hustling production which throttle the idea of special racing car construction as demoralizing and poisonous to the manufacturing end.

In truly stock car events and particularly in small car racing the story in America will surely be satisfactory henceforth. In this newer development, we start in the game at least on a par generally with our foreign competitors, in excellence of machines and with the advantage of business and manufacturing methods that are far in advance of theirs.

Not only in methods and traditions is the foreign manufacturer handicapped, but he is confronted by the equally or even more serious problem of a market. The European countries open to him are small, some of them bankrupt, and certainly all of them, where roads and financial conditions offer some promise, well able to meet the entire demand of Europe from their own factories, at any rate if worked upon the scale possible in America. Therefore, with a few exceptions, the foreign maker cannot produce such quantities as will allow him to realize upon his cheaper labor (less than half the cost of similar American labor) or upon his cheaper materials. As a result many of the greatest and best known foreign factories are either practically closed down or are operating under such conditions of decreased production, or variegated production, that they are losing money every day.

Reports of new loans negotiated and of impending failures are tabletalk in Paris—the hub of the continental industry.

The Tariff on American Imports.

The necessity behind the present attack upon our customs tariff is as clear as day to anyone familiar with this situation. Our present tariff protects the automobile as well as other similar industries of the United States, from the unfair competition of European labor, whose recompense is based upon conditions of life such as no American workman would tolerate and which, God willing, may never be forced upon him by a removal of ample tariff protection.

Even our present tariff rate would not be sufficient, were American business and manufacturing methods possible abroad. The machine tools of the United States are conceded to be easily the finest in the world—but all advantage in this respect is lost through the almost complete equipment of every foreign factory with the very latest of this product of American brains.

In England, where little or no protection is afforded by tariff, and where the conditions of living, the self-respect and intelligence of the labor element more nearly approximate the similar conditions in America, it has been fully realized that if the motor car industry is to survive, there must be enacted at once just such protective measures against continental overproduction and price cutting as now exist in the United States.

It is inconceivable how there can be any sentiment among American manufacturers, who, in worse than utter ignorance of the situation, can come forward with the proposition that our protection is unnecessarily high. Only a relatively few automobile makers import even a small part of their materials from Europe; and this material is not brought in because it can be done cheaply; therefore the further proposition to increase the tariff rate upon motor car materials would seem to impose a hardship upon the trade without any appreciable benefit to either the labor interests of the country or the revenue of the government.

FOR ANTI-SHOCK DEVICES IN WHEELS.

PARIS, Jan. 16.—Inventors who are desirous of putting the pneumatic tire out of business will have an opportunity of proving their worth in a public competition to be held from Paris to Nice and return next April. For the fourth year in succession the 1,400 miles from Paris to Nice and return will be covered by automobiles having their wheels equipped with various anti-shock devices other than pneumatic tires. A minimum weight is imposed for each class, beginning with one-lungers of 3 9-10 inches bore and ending with six-cylinder cars of 4-inch bore, while a minimum rate of speed will be fixed for each category. The stages will be Paris, Dijon, Lyons, Marseilles, Nice, where an exhibition will be held, and return by the same road. On arrival at Paris a critical examination will be made of the wheels, awards being made according to the condition in which they are found. Only one set of wheels can be carried; no work may be done on them without penalization, and every stop or failure to make controls on schedule time will cause a penalization to be applied.

AFFECTS AMERICAN FOREIGN CAR OWNERS.

The United States Circuit Court of Appeals has handed down a decision which will compel American owners of foreign touring cars returning to this country to pay duty upon their machines. They will be assessed at the same rate as other imported automobiles, that is, 45 per cent.

The court's decision reverses the judgment of the lower courts and the action of the General Appraisers. It was rendered in the case involving the importation of an automobile by W. R. Grace & Company, which had been repaired abroad. The practice has been to admit the automobiles of returning tourists free of duty as household effects.

The court held that the judgment of the lower court that only the repaired part should pay duty was an error, and added that the automobile could only be considered an entirety. The decision held that an automobile is not a household effect in the meaning of the law. That this ruling will have a marked effect upon the attitude of the autoist in his gyrations abroad is assured, and it will stall fraud.

FRANCE WILL HAVE VOITURETTE RACE IN JUNE

PARIS, Jan. 16.—Though there will be no Grand Prix, and consequently no club race for voiturettes this year, small one-lungers will not be altogether without a speed contest during the coming season. Some time in June *L'Auto* will put on foot its fifth annual voiturette race under rules that differ in one important particular from those of previous years. Formerly bore for a single-cylinder car has been limited to 3.9 inches, with stroke entirely unfettered. The natural result was that the stroke has increased in enormous proportions, makers who commenced with a piston stroke of 4 inches four years ago having since run up to 5, 6 and 7 inches, and last year reached the exceedingly long stroke of 9 4-5 inches for a bore of 3 9-10 inches.

The unlimited stroke clause was intended to prove that stroke is not a negligible quantity in the development of power by an internal combustion motor. This has been so clearly demonstrated by all the big European races having been won by long stroke engines that nobody could now be found to maintain that two single-cylinder motors, one of 3.9 by 3.9 bore and stroke and another of 3.9 by 9.8 bore and stroke were of equal power. It is on this account that engines of a larger bore than 3.9 inches will be admitted on condition that the stroke of the piston does not exceed a fixed limit. For a 3.9-inch bore the maximum stroke is 9.8 inches; for 4.3 inches bore the maximum stroke is 6 3-5 inches bore; for the maximum bore of 4 7-10 inches the stroke is also 4 7-10. For two-cylinder engines the same rule holds good, a bore of 3 1-10 inches allowing a stroke of 7 1-2 inches; a bore of 3 7-10 inches allows a stroke not exceeding this.

For four-cylinder engines the lowest bore provided for is 2 1-2 inches, with a stroke not to exceed 5 1-2 inches; the bore may be increased to 2 9-10 inches, with a reduction of the stroke to the same figures.

In this year's race will be lined up cars of various bore with stroke in proportion, the long stroke engine always being encouraged. The Gobron type of motor, with two pistons per cylinder and two-stroke engines will be admitted on an equal footing. The aim of the rules is to prevent the development of the freak designs which were bound to make their appearance with attempts to still further increase the proportion of stroke to bore. Dismountable rims and dismountable wheels are allowed in the race.

It is intended to hold the speed test within sixty miles of Paris, on a varied type of course not more than 25 miles round. If more than 60 entries are obtained elimination races will be held.

BRITAIN'S FIGURES ARE MOST INTERESTING.

LONDON, Jan. 7.—With the assistance of the various licensing authorities, the R. A. C. has completed a census of the motor vehicles registered in the United Kingdom up to October 1 last. The grand total amounts to no less than 154,391, of which Scotland is responsible for 10,907 and Ireland for 6,139. The total for the corresponding date in 1905 was 74,038, so that the number of motors in use has been doubled in three years.

It is interesting to note how the present year's total is made up. Cars for private use number 71,381, while motor vehicles for trade purposes amount to 12,104. Motor 'buses and similar public conveyances reach a total of 5,880 and the remainder of 65,026 consists of motorcycles.

The number of registrations in London amounts to 34,908—only two thousand less than the estimated total for the whole of France. Birmingham ranks as the second city on the list with 3,651 vehicles registered and Manchester follows with 3,021.

SOME NEWS THAT WAS MADE IN GERMANY.

Nearly all the employees of the German factories are making a dead stand against the motor liability law, mass meetings having been called all over the country and resolutions set up. The men fear entire loss of work, as many factories are not only working shorter hours, but with fewer hands already to keep down expenses.

A 15-horsepower Mercedes will be put upon the market early next Spring; this item of news is received in Germany with satisfaction by many who were hitherto unable to purchase one of the bigger vehicles turned out at Untertuerkheim.

At the meeting of the German Motor Car Industrials a new formula for the Prince Henry tour was worked out which will permit vehicles of from 7 to 28 horsepower to compete. Nothing definite has been made known, although the debate on the subject lasted for a good many hours. Last year's rules were far from satisfactory and caused much dissent.

WILBUR WRIGHT LOCATES AT BASE OF PYRENEES

PARIS, Jan. 16.—At a dinner uniting the members of the Aero Club of the Sarthe and the Aviation Commission, Wilbur Wright has bid farewell to the town of Le Mans and in a few days will be installed near Pau, at the base of the Pyrenees. Before the rails were torn up and the wooden shed which has housed pilot and machine for so long was torn down a number of the engineers and mechanics of the Leon Bollee factory were invited to come for a flight. The machine was then dismounted, packed up and shipped by rail to the southwest corner of France. While waiting for his brother Orville and his sister, who are expected here in a few days, Wilbur Wright is spending a little time in Paris attending to private business.

As soon as his brother and sister have arrived the party will journey down to Pau and take up their quarters on the west plains five miles out of the town. A dwelling, consisting of five living-rooms, a workshop and sheds for several aeroplanes, has already been erected, and it is here that all future work will be done. The situation is an ideal one, the town of Pau being sufficiently near to supply all requisites, yet far enough away to insure quietness; for thirty miles to the north stretch the vast Landes, without a tree, a house, or a patch of cultivated land.

The first month at Pau will be spent in training the three pupils, Comte de Lambert, Captain Girardville and Paul Tissandier, with probably the addition of Leon Delagrange. At the end of the time Wilbur Wright will return to America, in order to fulfill his engagements with the United States Army Department. During his absence his brother Orville will supervise the construction of the six aeroplanes which must be constructed according to the Lazare Weiller contract. The spruce for these has been sent over from the States and in general features they will be similar to the one used at Le Manus. A Wright type of engine, built by Barriquand & Marre, of Paris, will be fitted, differing only from the one used last year in a few details. Another engine for the Wright aeroplane has been studied at the Leon Bollee factory at Le Mans.

On returning from America in the Spring, Wilbur and Orville Wright will commence further experimental work on their aeroplane, the nature of which has not been divulged. It is understood that an attempt will be made to very considerably improve what is at present the most remarkable machine in the world.

RULES GOVERNING SIXTH ANNUAL A. A. A. RELIABILITY TOUR

THE rules for the 1909 Glidden tour, published for the first time herewith, embody a number of changes from those in force last year, and it is believed that they will be found generally satisfactory to all concerned. The toy tonneau or double rumble car is now officially recognized as an individual class, and a separate trophy is offered for this class. All cars are classified according to price, in five groups, and the running time allowed is regulated to correspond with the presumed ability of each group.

The penalizations have been made much more strict than before. All spare parts, whether or not they are listed before the start, will be charged for, although those listed will entail a smaller penalty than those made necessary by unforeseen emergencies. Listing is extended even to the tools to be used. Penalties will also be exacted for the time spent by driver and mechanician in repairs, except on tires, which as before cannot be the cause of any downfall. Last but not least, the system of club teams has been abolished. This will no doubt be a cause of satisfaction to the entrants.

Entries will close at noon June 16, 1909; each entry must be accompanied by the specified fee of $200 for those received before May 15 and $300 for all others. Entries should be sent to Frank B. Hower, chairman of the A. A. A. Contest Board, at his office at 760 Main street, Buffalo, N. Y.

TOUR OF 1909.

The Sixth Annual Reliability Touring Contest of the American Automobile Association will be held..... to.....1909, starting at..... and ending at.....

In connection therewith will be offered for competition certain trophies and certificates, described as follows:

1. For touring cars, the Charles J. Glidden trophy. (For details see deed of gift.)
2. For miniature tonneau and double-rumble cars the..... .....
3. For touring runabouts, the Frank B. Hower trophy.
4. For all cars completing the run as contestants, certificates.

Trophy Awards.

1. The trophy in each class shall be awerded to the entrant whose car completes the contest with the least points to its debit. A certificate will be awarded to each contestant who finishes the run under the rules.

Qualifications.

1. Each entrant shall be a member of a club affiliated with the American Automobile Association.
2. Any stock car consisting of a combination of the manufacturers standard touring car chassis, touring body and standard equipment, with seats for four people or more, and carrying four or more persons or ballast at the rate of 125 pounds per person, may complete for the Glidden trophy.
3. Any regular stock chassis with body equipped for two persons on the front seat and with standard equipment, and carrying not less than two persons, may compete for the Hower trophy. The car may have a rumble seat for one or two persons and additional passengers may be carried.
4. Any stock car, consisting of a combination of a miniature tonneau with doors, mounted upon the chassis regularly furnished with same and standard equipment, carrying four persons or ballast at the rate of 125 pounds per person, may compete for the..... trophy.
5. Cars shall at all times during the tour carry mufflers and mudguards, and be fully equipped as per manufacturer's catalogue specifications, except that tops and wind shields need not be carried.
6. Shock absorbers and spring wrappings may be added before the start as equipment, though not regularly furnished.

Responsibility of Entrants.

1. Each entrant by his signature to the entry blank shall agree that he is familiar with the rules, that he will abide thereby and accept the official records, and authorize the American Automobile Association to publish them in such manner as it shall determine.
2. Each entrant shall hold the American Automobile Association harmless and indemnify it against all loss or damage resulting directly or indirectly from or growing out of the operation, management, or control of the car entered by him.
3. The American Automobile Association shall not be responsible for any damage that may be done to any car, its passengers or contents during the tour, nor for the theft of any car or any of its accessories or contents, the same being at all times subsequent to such entry, and until the close of the tour, at the risk in all respects of persons entering same.
4. Each entrant or his official representative shall be responsible for the acts of passengers in his car.
5. Each competing car must be delivered into the custody of the committee before 9 o'clock on the morning of ....., 1909, for official examination and to check the inventories of parts and tools hereinafter provided for.
6. Each entrant shall name an official representative for each of his entries, on or before July 1, 1909, failing which the driver of the car shall be considered the official representative.
7. The official representative of the entrant shall be subject to all rules and penalties prescribed for the entrant, and shall be considered as the entrant in fact.

Entries.

1. The time for receiving entries shall expire on June 16, 1909, at 12 o'clock noon at the office of Frank B. Hower, Chairman, Contest Board, at 760 Main street, Buffalo, N. Y. Each entry must be accompanied by the entrance fee. For entries received prior to May 15 the fee shall be $200; after May 15 and until 12 o'clock noon on June 16 the entrance fee shall be $300.
2. Each entrant shall give all details asked for in the entry blank and such additional information as the Contest Committee may from time to time require.
3. The Contest Committee of the American Automobile Association reserves the right to refuse any entry.
4. Entries shall be numbered in the order of their receipt.

The Route and Schedule.

1. This information will be supplied later.

Pacemaker.

Each day's tour will be preceded by a pacemaker's car; and any entrant or representative thereof who passes the pacemaker shall be disqualified. If the pacemaker's car breaks down or is compelled to travel at a rate of speed so slow as to impede the progress of the tour, his flag shall be transferred to the first car overtaking him, which car shall thereafter become pacemaker's car subject to the same conditions.

Class Schedule.

Competing cars shall be divided into classes as follows:

Class A.—Cars listed at $3,751 and upwards.
Class B.—Cars listed at $2,451 to $3,750 inclusive.
Class C.—Cars listed at $1,751 to $2,450 inclusive.
Class D.—Cars listed at $1,000 to $1,750 inclusive.
Class E.—Cars listed at $999 and under.

1. The Class A running time for each day shall be posted on the bulletin board at headquarters the previous evening. Each driver, using this as a basis, shall figure his own running time and when due at controls.

When the daily running time shall be 9 hours or more the running time of

Class B will exceed that of Class A 20 minutes.
Class C will exceed that of Class A 40 minutes.

Class D will exceed that of Class A 60 minutes.
Class E will exceed that of Class A 80 minutes.
When the daily running time shall be greater than 7½ hours and less than 9 hours the running time of
Class B will exceed that of Class A 15 minutes.
Class C will exceed that of Class A 30 minutes.
Class D will exceed that of Class A 45 minutes.
Class E will exceed that of Class A 60 minutes.
When the daily running time shall be 7½ hours or less the running time of
Class B will exceed that of Class A 10 minutes.
Class C will exceed that of Class A 20 minutes.
Class D will exceed that of Class A 30 minutes.
Class E will exceed that of Class A 40 minutes.

Tools, Parts, Replacements and Repairs.

1. Each entrant shall furnish prior to the start an inventory of all parts carried in his car, and these shall be officially checked, sealed and record made of same, and charged for when used. Each entrant must furnish the manufacturer's price of each part carried.
2. All tools carried shall be listed by the entrant and officially checked prior to the start. Tools include wrenches, hammers, screw-drivers, etc., and not the small accessories frequently included in tool kits, such as emery, wire, solder, etc., which are parts or material and must be sealed.
3. Each entrant may carry as many tires, rims and tire chains and the parts which secure them in place as desired.

Tire Repairs.

There shall be no penalty for tire repairs, provided the engine be kept running while the repairs are made and no other work done. The time consumed in making tire repairs while the engine is running shall be added to the day's running time.

Controls.

1. Each contestant shall be ready to check out at 7 o'clock each morning. Checkers shall be at their stations at that time prepared to start the cars.
2. Each entrant, or official representative of such entrant, upon starting each day's run, shall sign a statement submitted by an official of the tour fixing the time of his departure, and shall be given a card, indicating such time. Failure to comply shall result in disqualification.
3. The Committee may establish such checking points as it may deem proper.
4. A car ahead of time at night controls may immediately check in.
5. There shall be established at the close of each day's run a parking station, in which all competing cars shall be stored. The station shall be in charge of the Chief Observer.
6. Each car shall be checked on arrival at the control.
7. Following the registration at each night control, each car shall be delivered into the custody of the officials of the tour to be by them held at owner's risk, and kept under direct charge and supervision of such officials or their agents until the time for starting on the following morning, but after registering, the car may deliver the occupants (other than the driver and observer) and baggage at hotel and then immediately proceed to the parking station.
8. Passengers and baggage may be taken on at the parking station after the car has been delivered over to the observer and driver before checking out in the morning, or at the hotel after checking out, but no time shall be allowed.

Intermediate Checking Stations.

Checking station will be inaugurated in so far as it is necessary to stop racing. Each driver shall receive a card when checking out in the morning which shall name checking stations, so that he can estimate his running time during the entire day. There shall be no appeal from the time registered by the various official watches.

Observers.

1. Each entrant shall furnish at his own expense one official observer for each car entered by him; all observers shall be acceptable to the committee and subject to its instructions. If the entrant is an automobile manufacturer or dealer, or in any way connected with the manufacture or sale of automobiles, each observer furnished by him shall be
(a) A person who has been regularly and exclusively employed by the entrant by whom he is nominated for a period of not less than three months immediately prior to the contest, or
(b) The entrant himself or an officer or director of his business, or
(c) A dealer in the car made by the entrant;
(d) An owner of a car made by the entrant.
2. If the entrant is not an automobile manufacturer or dealer, the observer furnished by him shall be satisfactory to the Committee.
3. Each observer may be assigned to a different car each day.
4. The Committee shall be empowered to suspend any observer who neglects, is incompetent, or for any other reason fails to fulfil the duties assigned to him, and to provide a suitable substitute at the expense of the entrant, by whom suspended observer was nominated.
5. It shall be the duty of each observer under all conditions and without evasion of this rule for any reason whatsoever, to remain with the car until he has been relieved by the chief observer and to report every detail of the performance of the car to which he is assigned, and all persons who operate, repair, assist or perform any action connected therewith.
6. Observers must not advise drivers as to the rules, but in case of a tire repair when the engine is running he shall sign and hand to the driver a printed form on which is filled in the time used and see that the time is added to the running time.
7. After the car is parked the observer shall present his record for inspection to the driver of the car on which he has ridden and obtain the driver's signature thereto. The record shall then be immediately delivered to the chief observer; the driver, the observer and other occupants of the car shall leave the parking station only when released by the chief observer.
8. In the event of sickness or an accident to an observer which shall make it an impossibility for him to remain with the car, or secure a substitute properly authorized, he shall select one of the passengers of the car as a substitute observer, who shall perform all of the duties pertaining to the position and shall, in addition thereto, have his record signed by all the occupants of the car during the time he is on duty.
9. Should any objection be made by the driver to the record, a report may be made immediately to the Chairman, who, in the event of a dispute as to facts, may require the driver to state his objections in writing. The record may also be inspected by one other properly authorized representative of the entrant, who shall also have a right to register an objection and submit proof in support thereof.
10. The observer shall ride in the seat assigned him by the entrant or driver.
11. When any work, whether under penalty or non-penalty conditions, is being done on different parts of the car, making it impossible for the observer to properly watch each operation, the observer may compel one of the workmen to stop until such time as he can properly watch him.

Penalties.

1. All cars start with clean score.
2. Penalties shall be imposed for:
(a) Late arrival at night control.
(b) Repairs and replacements.
(c) Deterioration as shown by final examination under published schedule.
3. After an allowance of two minutes, each late arrival will be penalized one point for each minute or part thereof.
4. Parts, labor and use of tools shall be penalized as follows:
Inventoried parts and material carried from the start: One-tenth of a point for each ten cents (10c.) or fraction thereof.
Time consumed by driver and mechanician in work in connection with such parts: One-tenth of a point for each man working for each minute or fraction thereof.
Outside labor: Two-tenths of a point for each man working for each minute or fraction thereof.
Parts and material not inventoried and carried from the start: Two-tenths of a point for each ten cents (10c.) or fraction thereof.
Time consumed in connection with such uninventoried parts: Two-tenths of a point for each minute or fraction thereof for each person.
For the use by driver or mechanician of tools not listed: Two-tenths of a point for each man for each minute or fraction thereof that such tools are in use.
5. When a number of parts are used at the same time, each part shall be separately penalized. Example: If a bolt and nut are used together, each will be recorded and penalized as a separate part.
6. Any car which may, for any reason, discontinue as a contestant, shall be penalized 1,000 points in addition to all previous penalizations.
7. In recording time to be penalized, the operator of the car and the observer must mutually agree as to the time when work commences, which shall be immediately recorded on observer's card, and as to the time when such work ceases, which shall also be immediately recorded.

Road Regulations.

1. Entrants and official representatives of entrants shall conform to all laws, ordinances and rules of the road, and any entrant or official representative of such entrant violating any of the provisions of these rules, or of other rules adopted by the Committee, or who shall fail to show due consideration to the officials or other participants in the tour or other users of the highways, may be disqualified.
2. Any car whose owner or driver shall be arrested for a violation of speed laws, or of any law or ordinance, may be disqualified.
3. When road conditions are so bad that a car cannot get sufficient traction to move, or is ditched, and reasonable effort has been made to extricate it, towing or other external means may be used to relieve the immediate distress only, but under no circumstances shall a car enter a night or any other control except under its own power. When towing, or assistance from any external source shall have been received by a car, its observer shall make a full and complete report, giving time, place, conditions, distance of tow, and any other details.
4. Each car shall have its official number prominently displayed on each side of the hood, and, if possible, painted on radiator.
5. No record of any previous performance, or sign, or special indication of the maker's name, other than a nameplate on the front of the radiator, shall be displayed on any car at any time during the tour.
6. All replacements, replenishments, adjustments, or repairs can be done only on the daily running time.
7. The tools listed may be used by the operator and by the mechanician without penalty, but must be done on running time.

Protests; Disqualification.

1. A written protest may be filed with the Committee, by any participant in the tour, but must be accomponied by the sum of $25. If the protest is not sustained this sum will be retained by the American Automobile Association, but if the protest is sustained, the protest fee will be returned to the person making such deposit. No protest except conforming to the above requirements will be considered. Each protest will be acted upon at the earliest practicable moment.
(a) Any protests as to unfair rulings, routes, etc., shall be made within twelve hours after the occurrence.
(b) Any other protests shall be made during or immediately after the tour is concluded, and before any award is made.
2. No entrant, or his official representative, shall be disqualized until he shall have been notified of the act complained of, and if the act be denied, he shall be given a hearing, after which a decision shall be rendered. Upon notice of such disqualification he shall cease to run in the contest, the official numbers shall be removed from his car, and such entrant shall not receive any certificate, but shall be mentioned in the records as having been disqualified, and no entrant of any car that may be disqualified shall have any claim of any kind or nature whatsoever against the American Automobile Association of any member or members of any committee or any official of the tour, because of such disqualification, or the publication thereof, or failure to mention the performance of the disqualified car prior to its disqualification.
3. Contestants who withdraw may, in the discretion of the committee, continue on the tour as "non-contestants."

Powers of the Committee of the Contest Board.

1. The Committee of the Contest Board shall manage the tour, with full power to enforce the rules, render decisions and do anything else that would be within the province of the Contest Board of the American Automobile Association.

PROPOSES A NEW KIND OF COUNTRY ROAD

WASHINGTON, Jan. 19.—A new kind of country road—a combination of asphalt and macadam—was proposed to the Independent Asphalt Association at its annual meeting, in the New Willard Hotel, to-day. The innovation was suggested by Amzi L. Barber, who has spent most of his life in the asphalt business. A macadam highway, with a strip of asphalt in the middle, he said, was the hope of the future, the only highway to stand the heavier loads and the ever increasing automobile traffic. The idea bears the stamp of novelty, and the speaker's argument was well presented. In the course of his address Mr. Barber quoted Government statistics to show how large a proportion of the country's wealth was produced by farmers, and what a small share of the Government appropriations, comparatively, was devoted to their interests. Largely on account of the unimproved state of the roads, he said, the mere hauling to markets and to shipping points costs the farmers of the country $662,000,000 every year.

This is a Typical Stretch of Country Road in Michigan.

The speaker reviewed the progress of the good-roads movement in recent years, and advocated extensive Government aid.

"It is only a question of time," he said, "until such appropriations will be made. They are as necessary for good roads as for rivers and harbors, or for post-offices. The farmer has the same right to demand quick delivery, which is possible only over a good road, that the city man has to demand fast mail trains and frequent delivery by city carriers."

An Asphalt-Macadam Highway.

In approaching the problem of road construction, Mr. Barber sketched the advances made since John Loudon Macadam, a century ago, devised the kind of road which still bears his name. The macadam road, admirable as it is, has been found unable to stand against the wear and tear incident to modern vehicles, modern loads and modern speed. Mr. Barber said in part:

"Inasmuch as macadam and asphalt, by long evolution, the first for one hundred years, and the last for nearly forty years, have established themselves in many countries as the premier types of roads, I have, after long and careful consideration, come to the conclusion that the best, if not the only solution of our problem, is a combination of the two in the form of an asphalt strip of suitable width, running through, and usually in the middle of the macadam.

"Horses can be driven on the macadam as now, if desired. Automobiles, when the road is clear, will have an ideal surface in the middle, equal to a billiard table, with no ruts or lumps to look out for. When automobiles meet, they will slow down and turn out so as to run upon the macadam only on one side and for a few feet; and when rain first falls on the asphalt, making it slippery, they can run with one side on the pavement and one side on the macadam, to avoid skidding. When on the strip of pavement in the middle they will cause neither dust nor wear.

"Finally, and if no other advantage were to be gained, farmers can haul on the asphalt more than double the load that they can haul on macadam. This consideration alone should decide the matter in favor of the asphalt strip."

Mr. Barber spoke of the damage caused to the smooth surface of roads by automobiles and of the increasing seriousness of this damage.

"It is well known," he said, "that automobiles, even at moderate speed, tear up macadam and grind its fragments into dust, thus destroying the road and causing a nuisance to all who use it, and to occupants of houses on the roadside. It is equally well known that automobiles do not destroy asphalt pavement nor cause any dust from it, no matter how great the speed may be.

The Automobile an Important Factor.

"Ten years ago the manufacture of automobiles in this country was practically *nil*. During the year 1907, according to excellent authority, there were produced 52,000 motor cars, with a value of $105,000,000; and about the same output has taken place in 1908. For the year 1909 it is estimated that the manufacture of motor cars in the United States will reach 75,000, with a value of $150,000,000.

"From these figures it seems safe to predict that the motor cars have come to stay. The farmers themselves, who bitterly opposed them at first, are now owning automobiles, and find them to be their most valuable acquisition.

"Statistics in former years show that farmers' wives provided a greater percentage of insanity than any other class. The introduction of the telephone and the rural free delivery have in some measure tended to remove the essential isolation and monotony which were considered the chief cause of the insanity. Automobiles and good roads will furnish complete remedies for these two handicaps to farm life.

"There are in the United States 225,000 miles of railroads, and 2,151,570 miles of public roads, only about 8 per cent. of the latter being improved. For every mile of railroad there are about nine miles of dirt and one mile of good stone road.

An Unanswerable Good Roads Argument.

"The total expenditures of the United States for the ten years ending in 1906 amounted to $6,309,742,632. Of this vast amount only about three-fourths of 1 per cent., namely, $47,000,817, was directly devoted to the interest of agriculture and yet the prosperity of the whole country depends primarily upon the condition of the agricultural interests. Manufacturing, transportation, trade and banking all are directly related to and dependent upon the crops which the farmers raise and haul to shipping points on rail or river. Every citizen of, and every person in, the United States is a consumer of farm products, and is directly benefited by cutting down the cost of hauling those products from the farms to the shipping points.

"Now, if Uncle Sam would appropriate, say, $20,000,000 yearly for ten years for the building of good roads, and would apportion this among the States and Territories according to population, on condition that the States accepting should provide three times as much, the benefit to the whole people of the United States would be immediate and of enormous value. The States would eagerly accept their allotment, and could provide the three-fourths of the money required by contributing one-fourth themselves, and apportioning the two-fourths thus obtained among the counties, with the provision that the counties supply the remaining two-fourths. Then each county could itself contribute one-fourth and apportion the three-fourths among the townships, on condition that the townships accepting the apportionment provide the remaining one-fourth. This arrangement means that for every dollar provided by the United States each State, each county, and each township would provide another dollar. Under such an arrangement the building of good roads throughout all the United States would proceed by leaps and bounds."

Taking the average cost of making a sixteen-foot macadam roadway as $10,000 per mile, Mr. Barber estimated the total cost of a sixteen-foot road with a six-foot strip of asphalt in the middle at about $13,000 a mile, an increase of 30 per cent.

"This asphalt strip," he said, "should last for from fifteen to twenty years, or longer. It will successfully overcome the old difficulties and avoid causing any new ones."

For the actual construction of the new kind of road, he proposed a portable plant for mixing and laying the asphalt. This plant, carried either on one four-wheel vehicle, or in separate parts on separate vehicles, would be self-propelling. The ingredients would be delivered alongside the plants in wagons, or along road at proper distances, for use as the machine was driven forward. The proposed plant would have its mixer in the rear, so that the hot mixture would fall directly upon the spot where it was to be laid. This method, as compared with the stationary plants employed in cities, would save the cost of hauling the mixture from the plant to the place where the work was in progress. The elimination of cost in hauling the mixture would be of vast importance.

PART OF AUTOIST IN NATIONAL CONSERVATION MOVEMENT

THE American automobilist has probably never regarded himself as a part of the great national conservation movement which has now taken root and which is being pushed by some of the ablest minds in the country.

Powell Evans, of Philadelphia, who is chairman of a delegation recently appointed by the American Automobile Association to confer with the National Conservation Commission, in a recent interview gives some idea of the duty which falls upon every member of the national automobile association in order to carry out to an ultimate and successful conclusion the building, maintenance, and mapping of a great chain of highways reaching in all directions over the United States.

Mr. Evans, who is also chairman of the A. A. A. Touring Information Board, believes that through the connection of the association with the National Conservation Commission the twenty thousand odd members will now be in a position to accomplish more in the direction of good roads than they have ever been able to do through any previous good roads organization.

Much Can Be Now Accomplished.

While a great deal has been done by automobile clubs scattered throughout the country, the effort has been more or less disjointed, and it is now believed that through the influences of the Conservation Commission all which has been done in the several States can be brought together, maintaned and improved for the good of the whole country and for all users of every kind of vehicle.

"The formation of automobile users into clubs," says Mr. Evans, "has finally developed into a definite policy, which comprehends the broad question of good highways, well built, maintained and carefully posted and mapped. This policy also embraces the decent use of highways, not only by automobiles, but by all travelers, together with just and equitable legislation for every class of highway users. This programme is being advanced with activity, honesty and intelligence. The National Conservation Commission recognized this fact when it invited the A. A. A. to become one of its conferrees.

"The Conservation Commission fully appreciates the fact that one of its greatest duties is the encouragement of a complete system of national highways. A good road conserves energy, time and money. It seems to be the consensus of opinion that States should themselves construct and maintain the great highways within their limit, and that the lesser division of the State should construct the smaller highways. This is the general trend of advanced good road legislation from the legislative standpoint.

One Law for All Road Users.

"As regards road use, the association believes that travel on main highways should be regulated by one law for all users, and that if lights on vehicles are necessary they should be used on horse-drawn vehicles as well as on automobiles. It is now pretty generally recognized that some allowance must be made for the destruction of road surface by rapidly moving vehicles. If the caulks in the feet of horses or the chains on motor car tires destroy portions of the roadbed this should be borne as a necessary evil and charged to highway maintenance.

"It is further believed by every man who has given serious thought to this highway problem that the rules governing the use of public thoroughfares should properly come under the Interstate Commerce and not be subject to change at the whim of some unreasonable local legislator or town board. The association stands for broad and uniform road laws covering all travelers alike. It denounces recklessness, and urges the punishment of all inconsiderate drivers, and it invites all users of self-propelled vehicles to join in this good work.

"The important principles underlying all good roads work are known but not sufficiently adopted. It is the purpose of the association to make all these facts known to those in authority, thus conducting an educational campaign."

This Is a Stretch of the Famous Old Jericho Turnpike on Long Island.

CLUBS PREPARE FOR WORK OF NEW YEAR

NEW YORK STATE'S LEGISLATIVE SITUATION.

ALBANY, N. Y., Jan. 18.—While motor vehicle legislation has been given an impetus thus early in the session of 1909 by the Governor's recommendation in his message, there is nothing exceptionally significant in the bills which have been introduced so far. The State Automobile Association bill, which was considered and amended in several particulars without changing the general plan and scope of the measure at the end of the regular session of 1908, has been reintroduced in the Senate by Senator Allds, of Chenango, and in the Assembly by Assemblyman Hamm, of Wayne. The principle of the proposed increased tax or license fees for autos is a tax on weight, and began with a registration fee of $5 for a motor vehicle of 1,500 pounds weight or less; $10 for one weighing over 1,500 pounds and not more than 2,500; and for every 500 pounds in excess of 2,500 pounds an additional $5. This question of a weight tax will have to be fought out again, as there are members of the Legislature who own two or more cars who insist that such a scheme produces an excessive tax on the individual and all out of proportion to the damage the motor vehicles do to highways in comparison to other vehicles which use the highways without paying any tax save where they may by chance be assessed as personal property. It is likely to be some time before the legislators get seriously to work figuring out just what sort of a motor vehicle increase tax bill they will frame.

The other motor vehicle bill so far introduced is not a new one, having been introduced and not pressed to final passage in either house by Senator Grady, of New York, in one form or another for the past three years. Senator Grady says his bill is aimed only at the reckless driver or operator, and proposes a rigorous penalty for any autoist who endangers life or limb of others on the highway. Nor is it wholly restricted to motor cars in its application as it covers all kinds of conveyances driven or ridden over the highways.

SYRACUSE HAS AN EFFECTIVE CLUB.

SYRACUSE, N. Y., Jan. 18.—The Automobile Club of Syracuse had its annual meeting at the Yates, with 75 members in attendance. In the absence of President H. W. Smith, First Vice-President Howard P. Denison presided. Both he and Mr. Smith were re-elected to their positions, as were also Dr. C. M. Ryan, second vice-president, and Forman Wilkinson, secretary and treasurer.

The constitution was changed to provide for the serving with the officers of a board of directors, and the following men were chosen to act for the first year: Alexander T. Brown, D. E. Watson, J. William Smith, C. C. Bradley, Jr., and Willett F. Brown. The president, one of the vice-presidents and four of the directors will in future comprise a necessary quorum for the transaction of business. This will avoid the annoyance in the past of frequent meetings being called with no resultant necessary quorum, for heretofore the club has had no directors.

The report of Treasurer Wilkinson showed the club to be in excellent financial condition. The receipts during the past year were $1,583 and the expenses $1,263, leaving a balance on hand of $319.

There was considerable outlay the past year for road signs. About $200 went to the State Association to be used in connection with the fund for fighting inimical legislation at Albany.

The total membership of the club the first of this month was 217, 205 being residents and an even dozen being from out of town. Sixty-eight new members were taken in during the year. A determined effort is to be made to make the membership 300 or over before the end of the present year. President Smith will later appoint a route sign committee, as well as committees on exhibitions, contests, races and tours, law and order, and roads.

MINNEAPOLIS CLUB WANTS TO BUILD HILL.

MINNEAPOLIS, MINN., Jan. 18.—Again the question of building a scientifically-constructed hill with absolutely correct grade is engaging the attention of the members of the Minneapolis Automobile Club. The idea was broached last Summer and a subscription list was at once started among club members, and now again the subject is up for consideration. It is planned to build the hill on the club's property at Bloomington, 18 miles from Minneapolis, along the Minnesota River bottoms. If necessary land will be leased adjoining that of the club, and a hill half a mile in length can be built. It will vary from 8 to 24 per cent grade, and there will be a sharp, hairpin turn, which will take the cars in the opposite direction and bring the finish right in front of the spacious clubhouse. There will be plenty of room under this arrangement for the construction of grandstands and bleachers.

Col. F. M. Joyce, president of the Minnesota State Automobile Association, recently wired Chairman Hower, of the A. A. A. tours committee, regarding the chances of the Glidden tour coming to Minneapolis this Summer. The answer read: "Impossible to say; very uncertain at present, but route will surely be West." This answer means much, as Chairman Hower has said positively that if the tour is in the West this Summer it will include Minneapolis and possibly Duluth. Col. Joyce will go to Milwaukee shortly to confer with the Milwaukee club officials and to co-operate with them in making arrangements for the handling of the "Glidden army."

BALTIMOREANS OBJECT TO PROPOSED LAW.

BALTIMORE, Jan. 18.—At the meeting of the Automobile Club of Maryland the members went on record in opposition to the bill framed by the Automobile Commission of Maryland proposing a special tax on autos to assist in the construction of improved highways throughout the State. Osborne I. Yellott, counsel for the club and who presided in the absence of the president, Dr. H. M. Rowe, explained that the owners now pay a personal tax and if the proposed bill was passed it would put an additional tax of $60 on a $3,000 machine, $80 more on a $4,000 car and higher rates in proportion to the cost.

The club appointed Joel G. Nassauer chairman of a committee to look for a site for a country club within 10 or 12 miles from the city. The members also expressed themselves as favoring the proposed National highway from Washington to Gettysburg, Pa. A resolution to this effect, which was passed at the meeting, will be forwarded to Congress.

The show committee is hustling around in search of a site for the proposed show under the club auspices the latter part of the next month.

NORRISTOWN DEDICATES NEW CLUBHOUSE.

NORRISTOWN, PA., Jan. 18.—The members of the Norristown Automobile Club were fully rewarded for all the trouble and expense of providing a home when they were able to be present with many friends at the formal opening of the new clubhouse. Within a few minutes' run from here, situated on Ridge Pike, it is easily accessible from all parts of Montgomery county and Philadelphia. On the inside the large living room with its wide fireplace is a most noticeable feature. The roast pork dinner was a ravenous success. Among those who responded to ex-Assemblyman John H. Rex, who acted as toastmaster, were: S. Boyer Davis, chairman of the legislative committee of the Pennsylvania Motor Federation; Robert P. Hooper, president of the Federation; President John E. Mountain, of the Norristown club; Assistant District Attorney Charles McAvoy, Justice O. F. Lenhardt, County Treasurer William Higginbothom, Frank Boyer, Dr. J. N. Hunsberger and Prof. A. J. Schissler.

THE AUTOMOBILE

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THE MADISON SQUARE GARDEN SHOW.

An automobile show, or any other show, for that matter, which is held in Madison Square Garden has the advantage of occupying what is undoubtedly the best amphitheater in this country, both in location and in architecture; and if the show fails to be a success the management certainly cannot complain of inconvenient accommodations. When to the natural advantages of the building is added a scheme of decoration designed by an artist and executed regardless of expense, success seems almost assured. The present automobile show would attract crowds of sightseers merely as a spectacle; it cannot be denied that many go who have no interest in automobiles whatever. This gives a golden opportunity to the salesmen, and they are by no means slack in taking advantage of it. Even those whose chief interest lies in the automobiles themselves cannot be insensible to the beauty of the setting.

The decorators have wisely avoided over-elaboration; all details are subordinated to the general effect of spaciousness suggested by the ample proportions of the hall. There are no tall signs to break the view; the exhibitors' names are displayed on inconspicuous standards at the corners of their spaces. And, crowning feature of the whole, the entire end of the building is occupied by three enormous mirrors, which seem to double the amphitheater and make it a complete ellipse.

But, of course, the automobiles are the most important part of the show; and they are present in abundance. The makers who exhibit at the Licensed Association show are all old and well-established, most of them pioneers in the industry. For this reason there are few really striking novelties to be seen; all progress is in the line of refinement and perfection of standard designs. Many of the cars shown are indistinguishable, except by the expert, from former models; yet there has been undoubted progress. A few of the makers have attempted to atone for what they perhaps considered the monotony of their mechanical designs by the use of weird and startling color schemes—a reminder of the monstrosities so common five years ago. As a rule, however. body designs show a marked improvement. The toy tonneaus at present so fashionable are shown in great numbers; although small many of them are more comfortable to ride in than the larger bodies. There is a marked tendency toward the use of individual seats in the rear as well as in front. Mudguards are always fully enclosed, and cape tops are universal, except of course on closed bodies; many other details show the increased care that is being taken for the comfort of the passengers.

To those who attend such a show for the first time one of the most surprising features is always the vast number of exhibitors of accessories. That some of these companies which apparently make only the most trivial playthings—electric cigar-lighters, or a new kind of snap terminal, or a special tire patch—should be able to exist and thrive on the crumbs, as it were, of the industry, is one of the most remarkable evidences of the way in which the auto has intertwined itself in our every-day life.

There is little need to elaborate on the prospects for the coming year; the automobile is now a staple article of trade, for which an extensive market is permanently assured. Financial depressions must continue to affect it to some extent, as they do all industries, though the automobile has become in many cases an actual necessity of life. But the financial sky is now clear. Factories are working to their fullest caapcity, yet the agents still call for more cars. Demonstrations are in many cases becoming things of the past. Every indication points to a year more prosperous than any the industry has known before.

* * *

THE IMPORTATION OF AUTOMOBILES.

As an indication of the activity in the automobile industry it is possible to use the figures of the importation of automobiles and parts as a guide, on the ground that the imported cars will bear a relation to the total of the cars actually used. It is not a constant relation to be sure, but it will serve as a first approximation, and it is interesting to note the extent to which automobiles and parts are brought into this country. The following values are for eleven months ending November of the years given, as reported in the advance sheets of the Department of Commerce and Labor.

In 1906, value $3,997,674; 1907, $2,918,783; 1908, $2,343,646.

As an incident it is to note that the value for 1908 is not so far below the previous year as some of the prognosticators would have indicated. There are other evidences of quite the same reliability and just as difficult to connect up. In a word the automobile industry is a thorough-going proposition.

AUTOMOBILE ENGINEERS HAVE SUCCESSFUL MEETING

By CHARLES B. HAYWARD.

WITH a session that opened at 10 A.M. at the Automobile Club of America and wound up with the annual banquet at the Engineers' Club about ten hours later, the Society of Automobile Engineers brought to a close its fourth annual meeting, which lasted for two days and was the most successful and enthusiastic gathering of its members that has ever been held. As was the case on the opening day of the meeting, the first thing on the program was the running of a series of dynamometer tests on the club apparatus. This was in charge of Henry Souther.

The first car to be placed on the drums was a Fiat touring type, and in this case the principal object of the tests was to check the accuracy of the Veeder tachometer with which the car was equipped, by means of the delicate electric recording apparatus of the dynamometer. The car was run at speeds ranging from 5 to 50 miles an hour, and the readings of the tachometer closely checked with those shown by the instruments at points five miles apart at both increasing and diminishing speeds. The result was an unusually favorable showing for accuracy where the tachometer was concerned, its percentage of error, regardless of the speed, being so small as to constitute practically a negligible quantity. Both at the extremes of its range, as well as at intermediate speeds, its readings checked up with those of the dynamometer to an unusually close degree, the indications at five miles an hour revealing a percentage of error requiring three decimal points to express when figured in fractions of a mile per hour, and its variation at the higher speeds was correspondingly small. The test was carried out at the special request of the owner of the car, transmitted through Amasa Trowbridge, factory manager of the Veeder Manufacturing Company, of Hartford, and one of the members of the society.

Big Benz Tries the Dynamometer.

Through the courtesy of Peter Fogarty, a member of the society and American representative of the Benz, the big racing car which finished such a close second in the A. C. A. grand prize race at Savannah this Fall, and which was such a consistent performer in France last Summer, was placed on the drums. In the past it has been customary to speak of cars having been tried out by the dynamometer, but after witnessing the performances of the big Benz it was the consensus of opinion, not only of the engineers who inspected the machine for the first time, but of those who have been familiar with its operations since it has been installed, that the huge racing car tried the mettle of the testing apparatus very severely, and that without reaching anything like its limit. One or two of the engineers present facetiously remarked that "if Mr. Souther let her out any more, there would be a realistic horsepower indication on the big chart where the Benz had gone through it and the wall back of it too." Fortunately, this did not occur, but the great amount of power developed by the big racing car without drawing upon its excess in the slightest provided one of the most impressive demonstrations that the engineers had ever witnessed.

Despite the large number of members present, the fact that the car was encumbered with nothing more above its frame line than the usual scant racing attire of two bucket seats, tank and tire racks, permitted of an excellent view being obtained, and when the big car began to send the power and speed indicators of the instrument well along toward their maximum without being let out, the interest was intense. Mr. Souther sat in one of the seats beside the driver and when the tape showed a mile a minute one of the members considerately handed him a pair of goggles, remarking that they were necessary at that speed. There was more truth than jest in the remark, for the powerful blower employed to keep the temperature of the cooling water in the radiator down to a normal point, not only kicks up a breeze that is the equivalent of a speed of many miles per hour, but it had also begun to pick up oil and water and send it along in a manner that added considerable realism to the scene for those on the car. No attempt at conducting a regular series of tests was made, as this would have consumed too much time, but at a speed of 65 miles per hour, running on the second speed, the car developed a tractive effort of 500 pounds, showing that more than 100 horsepower was being delivered to the rear wheels at that rate of travel.

Sessions in Engineering Building.

Luncheon was served to about sixty-five of the members at the Automobile Club, a number having had to leave earlier, due to the necessity of keeping appointments. Following this an adjournment was taken to the Engineering Societies Building, in Thirty-ninth street, near Fifth avenue, the privileges of the quarters of the American Society of Mechanical Engineers having been extended to the members on behalf of the former by Professor Hutton.

Owing to the absence of the authors, the papers on "The Economics of Weight Reduction," by F. D. Howe, and "An Improved Type of Compression Coupling," by W. S. Noyes, were read by title, and a special request made for contributed discussion to be published in the following issue of the Transactions on these two subjects.

The paper on "Standardizing Motor Bearings," by S. P. Wetherill, Jr., was then read by the author, and resulted in a lively discussion of a number of points regarding this very essential feature of the design of every motor, that was productive of considerable interest. Mr. Wetherill's paper and the suggestion that it contained is largely based upon the recent successful development of die casting under compression, that has been extended to a point where many alloys not formerly regarded as adaptable to this process can be thus successfully handled. Its employment results in a great saving in the cost of bearings, owing to the elimination of all hand work, as well as the necessity of any machining, as the bearings are cast absolutely true to size.

A number of the members present gave their experience with the use of die-cast bearings, prominent among them being John Wilkinson, designer of the Franklin, whose company has been responsible for the development of die-casting to a very large extent, so that bearings made in this manner have always been a feature of the Franklin cars. A number of other members spoke in favor of the suggestion advanced by Mr. Wetherill, and it is more than likely that more will be heard on this subject in the future, as it is a matter that interests the designer and manufacturer of cars on a large scale in a vital point—namely, that of reducing the cost of production.

S. W. Rushmore gave a résumé of the paper of which he was a joint author with Herbert L. Towle, on a type of indicator with a continuously revolving drum, which, as Mr. Rushmore explained, was not invented with the idea in mind of perfecting a power indicator for the automobile engine, but for a specific purpose—that of locating a fault in a three-cylinder stationary engine installed in the Rushmore plant at Plainfield, N. J. The makers of the engine had carried out all their tests on the first cylinder, which was in perfect working order, and accordingly they were confident that their guarantee on the engine had been fulfilled. The other two cylinders were difficult of access, owing to the size and location of the engine, and Mr. Rushmore devised this special type of indicator to ascertain what was taking place in them, in which he was very successful.

As a matter of experiment, the indicator was then applied to a Locomobile car and a large number of cards taken at various speeds, these cards forming part of the paper itself. Owing to the difficulty of synchronizing the instrument with the motor, its

records naturally do not form a reliable index of the power developed, but they do serve to show what is going on in the cylinder to which it is attached, and are consequently of value for locating faults, such as deranged valve and ignition timing, and the simplicity of the apparatus is such that it was the inventor's idea that it could be employed by a repairman or garage attendant, as no great amount of skill was required to attach or use it, and benefit by its records, once the nature of the latter and their indications were known. Considerable discussion followed.

Autogenous Welding Explained by Mr. Cave.

Through the courtesy of the Davis-Bournonville Company, a complete set of autogenous welding appliances was on hand, and were used by Henry Cave to give a demonstration of the process in connection with his paper on this subject. As the paper was long, Mr. Cave simply gave a short résumé of it, and then proceeded with the demonstration, welding a flange on a cylinder and later joining various metals. In the discussion that followed, W. H. Smith, general manager of the John Keim Mills, Inc., of Buffalo, took a prominent part, owing to his not only having been a pioneer investigator of the art but one of its largest practical users for several years past.

Annual Banquet Was Largely Attended.

Jesse M. Smith, president of the American Society of Mechanical Engineers, was the special guest of the evening at the annual banquet, at which seventy-seven members and guests sat down, the largest number that has ever been on hand for one of the yearly gatherings. Some of the others present were: President Henry Hess; past presidents A. L. Riker and Thos. J. Fay; second vice-president B. D. Gray, Treasurer A. H. Whiting, and several of the managers of the society past and present, such as Prof. R. C. Carpenter, of Cornell, H. W. Alden, F. J. Newman and H. M. Swetland. Among the members and guests present were: Dr. George W. Sargent, Henry Souther, Clarence E. Whitney, William Herreshoff, Rollin H. White, John Wilkinson, H. E. Coffin, J. O. Heinze, C. S. Mott, V. J. Mayo, C. E. Davis, E. W. M. Bailey, Elwood Haynes, Henri Chatain, H. J. Edwards, A. J. Doty, J. M. Landsden, Jr., G. E. Franquist, A. H. Raymond, W. B. Hasselkus, J. A. Anglada, Frank Cooke, Lindley D. Hubbell, H. S. Baldwin, L. K. Clarke, Stanley Beach, C. E. Clemens, A. Churchward, F. Moskovics, H. F. Donaldson, A. L. McMurtry, R. M. Petard, Bruce Ford, C. B. Hayward, and a number of others.

President Hess's Souvenir Program Made Hit.

The feature of the dinner was the souvenir program prepared by President Hess. It was an eight-page pamphlet entitled "Feast of the Sponsors of Red Devils, Green Dragons and Blue Flyers, and their spawn of Jersey Justice Jolliers," the cover being ornamented with the emblem of the society. The motto of the dinner was Patrick Henry's prophetic utterance of March 23, 1775, paraphrased for the occasion. "But as for me, give me liberty (A. M. C. M. A.), or give me license (A. L. A. M.)," which was fitting in view of the fact that the most prominent engineers of both organizations have long been members of the society. The only toast permitted was that printed over the translation of menu into "clear chauffese," and expressed the wish, "May your intake be unobstructed, May your exhaust be clear." Despite the "independents" present, full license was given to talk to the right, left, front or rear, but any man who got up to say anything was threatened with an assault of crockery or anything else throwable.

THE AUTOMOBILE CALENDAR

AMERICAN.

Shows and Meetings.

Jan. 27-Feb. 3..Philadelphia, Second Regiment Armory, Eighth Annual Show, Philadelphia Automobile Trade Association.

Feb. 6-13.....Chicago Coliseum and First Regiment Armory, Eighth Annual National Exhibition, National Association of Automobile Manufacturers. S. A. Miles, Manager, 7 East 42d St., New York.

Feb. 15-20.....St. Louis, New Coliseum Building, Third Annual Show, St. Louis Automobile Manufacturers' and Dealers' Association. John J. Behen, Chairman.

Feb. 15-20.....Detroit, Wayne Pavilion, Annual Show, Detroit Automobile Dealers' Association. E. LeRoy Pelletier, Manager.

Feb. 15-20.....Cleveland, First Regiment Armory, Annual Show, Cleveland Automobile Dealers' Company.

Feb. 15-20.....Bangor, Me., Auditorium, Eastern Maine Automobile Show.

Feb. 16-18.....Denver, Colo., Auditorium, First Annual Automobile Show, Denver Motor Club.

Feb. 18-25.....Toronto, St. Lawrence Arena, Third Annual National Automobile, Motor Boat and Sportsmen's Exhibition. Ontario Motor League. R. M. Jaffray, Manager.

Feb. 20-27.....Newark, N. J., Essex Troop Armory, Roseville Avenue. Second Annual Show New Jersey Automobile Trade Association. H. A. Bonnell, Manager.

Feb. 20-27.....Hartford, Conn., Second Annual Show, Hartford Automobile Dealers' Association.

Feb. 24-27.....Omaha, Fourth Annual Automobile Show, Omaha. Automobile Show Association. C. N. Powell, Sec'y.

Mar. 1-6.....Buffalo, Convention Hall, Annual Show, Automobile Club of Buffalo. D. H. Lewis, Secretary.

Mar. 6-13.....Boston, Mechanics Building, Seventh Annual Automobile Show, Boston Automobile Dealers' Association. C. I. Campbell, Manager, 5 Park Square.

Mar. 8-13.....Kansas City, Kansas City Automobile Dealers.' Association Show.

Mar. 11-13.....Milwaukee, Wis., Hippodrome. First Annual Show of Milwaukee Automobile Club.

Mar. 13-20.....Minneapolis, Minn., National Guard Armory, Second Annual Show, Minneapolis Automobile Show Association. F. E. Murphy, Secretary.

Mar. 15-20.....Rochester, N. Y., Convention Hall, Annual Show. Rochester Automobile Dealers' Association. Charles J. Moran, Exhibition Manager.

Mar. 27-Apr. 3..Pittsburg, Duquesne Garden, Automobile Show. Pittsburg Automobile Dealers' Association.

Races, Hill-Climbs, Etc.

Feb. 20-22.....New Orleans, Fair Grounds Track, Mardi Gras Race Meet, New Orleans Automobile Club. Henry George, Secretary.

Mar. 5-12.....Palm Beach, Fla., Lake Worth, Fifth Annual Regatta. Palm Beach Power Boat Association.

Mar. 23-26.....Daytona, Fla., Seventh Annual Florida Beach Races. Florida East Coast Automobile Association. New York Representative, W. J. Morgan, Thoroughfare Building.

FOREIGN.

Shows.

Jan. 30-Feb. 14.Turin, Italy, Palais des Beaux Arts, Automobile Salon.

Mar. 15-31.....Vienna, Austria, Automobile Exposition, Automobile Club of Austria.

Races, Hill-Climbs, Etc.

Mar. 31-Apr. 14.Monaco, Italy, Annual Motor Boat Regatta and Championships.

May 2.....Sicily, Targa Florio, Automobile Club of Italy.

May 26.....Russia, Moscow—St. Petersburg Race.

June 10-18.....Germany, Prince Henry Cup Competition.

June 14-19.....Scotland, Scottish Reliability Trials.

July 1-3.....France, Angers Course, Grand Prix, Automobile Club of France.

July 13-17.....Belgium, Ostend Automobile Race Week.

Sept. 5.....France, Mont Venteoux Hill Climb.

Sept. 11-19.....Italy, Bologne, Florio Cup Race, Automobile Club Bologne.

400 AUTOS BURNED IN BOSTON.

BOSTON, Jan. 17.—What is unquestionably the most disastrous automobile fire that has ever happened in this country occurred at dawn this morning, when 400 automobiles were burned in the automobile storage and repair plant located near Park Square. The fire came from the rear of the building, and the exact cause is not clearly established.

The fire also spread to the old train shed of the Park Square Railroad station formerly used as the terminal of the Providence division of the New York, New Haven & Hartford Railroad, and destroyed the bicycle track and a large pavilion used for exhibition purposes. Six horses in one of the buildings were burned. It is said that the total damage was above $800,000.

There were six garages, including several used chiefly for repairs, in the big storage station formerly the railroad freight shed. The principal occupants were the Park Square Auto Company, the Boston Motor Company, the Rambler Motor Company, the Boston Auto Exchange, the Concord Motor Car Company, and the repair shop of the Marmon Company. All the large sightseeing automobiles in the city, numbering upward of a dozen, were burned, while there were between thirty and forty expensive cars of the limousine type in the storage. Out of the automobiles only two were saved.

The insurance rates on the destroyed property were somewhat higher than those in effect on other buildings of like use in the city, and the majority of the owners were only partly insured.

There were about twenty workmen in the building when the fire started, but all managed to get away, although several of them had narrow escapes. The fire was the largest in this city since last Summer. Coming just before dawn, with buildings and trees coated with sleet from last night's storm, the spectacle when the firemen reached the scene was an imposing one.

The hardest fight which the firemen had was to keep the flames from extending into the business blocks on Columbus avenue, and fully one-half the entire available force was centered on that side of the fire area. The rest of the firemen rushed bravely into the great train shed, the roof of which was burning fiercely, and there the flames were fought until they were stopped by the great brick wall at the upper end.

REMY COMPANY RECOVERS QUICK FROM FIRE.

ANDERSON, IND., Jan. 18.—The buildings containing the magnet-making department and the power plant of the Remy Electric Company were completely destroyed by fire last Wednesday morning. The loss amounted to between $3,000 and $4,000, covered by insurance.

On account of the boiler for the heating plant of the entire factory being put out of commission by the fire, the factory was shut down until repairs could be made. The fire occurring in the middle of the busiest season for the company, necessitated the quickest kind of work on the new building and the buildings were rebuilt complete and under roof by Thursday evening, the second day after the fire.

The entire plant is running as usual and deliveries of Remy Magnetos will not be delayed in any way.

PRESIDENT-ELECT TAFT AN ASSURED AUTOIST.

WASHINGTON, D. C., Jan. 16.—For the first time in the history of the country Congress is about to pass a law appropriating money for the purchase and maintenance of two automobiles for the new President of the United States. The urgent deficiency bill reported to the House of Representatives to-day contains an item of $12,000 for the purchase and maintenance of automobiles for the White House. The chairman of the appropriation committee explained that Judge Taft had intimated that he would use automobiles during his occupancy of the White House, and that he might have the machines at the beginning of his administration on March 4 next, the item was included in the urgent deficiency bill. The entire automobile trade of the country will rejoice over this glad news.

DETROIT'S "BIGGEST LITTLE" SHOW.

DETROIT, Jan. 18.—Preparations for the "biggest little" show, to be held in the Wayne Pavilion, February 15-20, under the auspices of the Detroit Auto Dealers' Association, are going forward rapidly. All plans have been perfected, and the manner in which the details are being worked out under the direction of Manager E. Leroy Pelletier gives weight to the statement of the show committee that so far as it goes—and that is a long way—it will be the equal of anything else in the country, not barring the New York shows.

The decorations will be on a more elaborate scale than ever before attempted locally. Sculptor Edward Wagner, who first won recognition in connection with his work at the Pan-American Exposition, has been busy for weeks preparing designs in clay and an army of men are now engaged in reproducing these in staff. The piece de resistance will be a quartet of chauffeur mermen supporting the main bowl of the big fountain that is to occupy the center of the second floor. Each merman wears cap and goggles and his hands, the muscles on the bare arms standing forth boldly, grasp a steering wheel. The upper bowl is supported by racing chauffeurs, while at the entrance to the seats that enclose the fountain will be smiling automobile girls.

The lower floor will be converted into a Venetian garden with 200 canaries hidden among the foliage.

MILWAUKEE WILL HAVE AUTOMOBILE SHOW.

MILWAUKEE, WIS., Jan. 18.—The first show in the history of the automobile industry in Wisconsin will be held at the Hippodrome in Milwaukee, March 11, 12 and 13. The Milwaukee Automobile Club has just announced its plans for the exposition. The officials believe the time is ripe for Milwaukee to have a show, as the industry never experienced so great a growth as during 1908, and 1909 is expected to be even more successful.

The Hippodrome will be used this year, and beginning in 1910 shows will be held annually in the Milwaukee Auditorium, under construction at a cost of $500,000. The Auditorium will not be completed until April 1.

Secretary James T. Drought, of the Milwaukee club, has already commenced active work on arrangements for the show. The Milwaukee Trade Association will give its hearty co-operation, they being closely identified with each other. There are about 35 agencies in Milwaukee and 40 makes represented.

CLEVELAND'S SHOW LOOKED UNCERTAIN.

CLEVELAND, Jan. 19.—For a few days last week the fate of the Cleveland Automobile Show, to be held February 22-27, was in doubt, for the fire wardens, learning through the efforts of an overly enthusiastic press agent that some 20,000 yards of bunting and thousands of incandescent lights were to be used, started an investigation. Since the terrible Collinwood school fire and the catastrophe in a five-and-ten-cent store, the word "fire" is something to be conjured with in this city.

The wardens served notice on the committee that they would have to give proof that there was no danger of fire. As a result, Sterling & Welch were obliged to give a demonstration of the result of their fireproofing. Many yards of bunting were subjected to such tests, and it was then announced that every incandescent light socket had an asbestos collar. The final result was that the committee was given permission to proceed under the supervision of the wardens.

PENNSYLVANIA WANTS UNIFORM AUTO LAW.

HARRISBURG, PA., Jan. 19.—A resolution asking Governor Stuart to invite the Governors of New York, New Jersey, Delaware, Maryland, West Virginia and Ohio to cooperate with Pennsylvania for a convention to enact a uniform automobile law in the States bordering upon Pennsylvania was introduced in the Senate to-day. The resolution, which was referred to committee, authorizes Governor Stuart to appoint five delegates to the convention.

FAIR WINNERS RECEIVE THEIR TROPHIES.

Unfortunately for some of the fair participants in the recent two-day run to the Quaker City and return of the Women's Motoring Club of Philadelphia, there were not enough prizes to go round, and as the decision of the committee regarding the six that were awarded was unanimous, there will doubtless be some heartburnings. Five of the successful contestants had perfect mechanical and time scores under the regulations of the run, while one prize winner had the misfortune to carry a mere man along as a guest and suffered in consequence, when it came to footing up scores.

Mrs. John Ramsey, of Hackensack, N. J., who drove a Maxwell runabout and carried Miss Hermine Jahns as a passenger, was awarded the Benjamin Briscoe trophy for the driver of a Maxwell making the best showing, while Mrs. J. N. Cuneo, of Richmond Hill, L. I., captured the Hugh Chalmers trophy by her spirited driving of the Lancia "Lampo" car. Her sister, Mrs. Harry Cushing, was the only passenger. Mrs. A. W. Seaman, of Brooklyn, who carried next to the largest number of passengers on the run in her Model D, 1906 Franklin, was awarded the Hol-Tan trophy. Beside the driver there were Mrs. D. H. Seaman, Dr. Elizabeth Hatton, Dr. Florence Lee-Jones and Dr. Ellen Lysaght. Mrs. Seaman was one of the champion drivers of the run, for though she only tips the scale at 90 pounds, she cranked the motor and swung five-gallon gasoline cars like a garage helper.

Miss Alice D. Heyes, of Brielle, N. J., captured the cup donated by the Women's Motoring Club by her skilful handling of one of the new Cadillac "Thirties." Her passenger list was the heaviest of the run, comprising Miss S. E. and M. R. Heyes, Miss E. M. Keysby and Mrs. E. S. Brainard. Mrs. Evelyn M. Buckman, driving a 24-30 Renault, was awarded the managers' donated by W. J. Morgan, while the Secretary's cup, given by Alex Schwalbach, was won by Mrs. A. C. Back, of Newark, N. J., who drove a Maxwell runabout and was accompanied by her husband. Mrs. Buckman, who is a tall and athletic Englishwoman, handled her Renault with consummate skill and stood among the first in the run, but her record suffered through the presence of mere man, who did nothing but lend his company to the occasion. Her other passengers were Mrs. Ida Goodel and Miss M. B. Schwalbach.

CONCERNING PLANS OF THE H. S. HOUPT CO.

Editor THE AUTOMOBILE:

There has been some public discussion of the relations of the Harry S. Houpt Company and the E. R. Thomas Motor Company.

In order that there may be no misunderstanding of our position, we beg to announce that the Harry S. Houpt Company expects to continue as the agents of the E. R. Thomas Motor Company for the sale of Thomas cars in this district until the expiration of its present contract on August 1, 1909.

Harry S. Houpt, who is introducing the Herreshoff car, is acting as an individual solely. The Harry S. Houpt Company will continue to handle the Thomas car during the life of its contract with the E. R. Thomas Motor Company. The Harry S. Houpt Company will also continue the management of the garage department until the expiration of the agency contract with the E. R. Thomas Motor Company.

At the expiration of the contract on August 1, the Harry S. Houpt Company expects not only to take over Mr. Houpt's personal interest in the Herreshoff car, but to introduce another new car on the market to be known as the Houpt car.

The Houpt car will be a larger car than the Herreshoff—will be built both as a four-cylinder and a six-cylinder model. Details of its construction will be announced in due course.

HARRY S. HOUPT COMPANY,
E. M. HOUPT, Secretary and Treasurer.

New York City.

Brookland's 1909 Programme.—During 1909 the committee of the B. A. R. C. proposes to hold race meetings on Bank Holidays and other days to be announced later, and have decided to greatly increase the privileges of members. In addition to the regular race meetings, open to all comers, it is intended to hold one or more club contests with ordinary touring cars.

AUTO DOINGS IN CONNECTICUT'S CAPITAL.

HARTFORD, CONN., Jan. 19.—Halsey M. Barrett and Henry W. Nuckols, receivers of the Electric Vehicle Company, have filed their report of business done during the month of December, with the Superior Court. The Selden patent royalties helped somewhat to swell the cash statement. The report shows charges on account and cash sales of $32,895.34 and purchases of $26,283.65. There was collected by the receivers on the Electric Vehicle Company accounts $3,138.38 and on the receivers' own account $36,266.49, while the Selden patent netted $1,311.92 and interest of $782.32 brings the total receipts up to $41,499.11. Of the disbursements, $29,518.52 has been for the factory pay roll. The A. L. A. M. received $1,139.40. The cash balance on deposit in the local bank and the Chase National Bank, of New York City, is $141,812. It is said on good authority that a reorganization will be effected very shortly.

Rumor has it that the Adams-Farwell people will occupy the old Pope tube mills if negotiations can be successfully consummated. Representatives of the company have been in this city during the past few days and have endeavored to get capital interested in the Adams-Farwell car.

Albert L. Pope and George A. Yule, receivers of the old Pope Manufacturing Company, have rendered their report covering the business done under the receivership from November 30 to December 23, 1908. It will be remembered that the concern was reorganized the latter part of December, hence the report covers business done up to that time. The balance in bank and cash on hand in the company's office November 30 last was $75,225.49; the cash receipts for the period total $152,655.51. The disbursements amount to $142,341.14. Except for minor details the receivership is practically at an end.

The McCue Company, builder of the McCue Hartford cars has erected a two-story brick building, 47 x 212 feet, on Pliny street. The front of the building will be devoted to the office quarters and the remainder for the shop proper. The McCue Company started work on the new building in November and it is nearly completed. At present the company is located on Capitol avenue, which quarters have become too crowded for the successful carrying on of the increasing business.

A movement is on foot to make free such ferries as now ply on the Connecticut River where there are no bridges. As autoists have no other means of reaching either shore without an extensive detour, the ferries derive quite a revenue. That at Lyme, at the mouth of the river, did a hustling business all summer. No one will raise the slightest objection to the ferries being made to transport free of charge.

NEW TWO-CYCLE, FRICTION DRIVE CAR.

ST. LOUIS, Jan. 18.—At the opening of the automobile show a new local car manufacturer will make his public début. The concern is now at work on its first two machines, which will be shown at the Coliseum exhibition, February 15-20. The car, to be called the Darby, will embody in its design all that is desired by the popular fancy and will sell at a price commensurate with the rapid advance of the low-priced automobile.

To provide simplicity and low first cost, a two-cycle, two-cylinder motor will be used in connection with friction-drive transmission. This motor, designed by C. T. Darby, will deliver a full 16-horsepower. The Darby will be built only in runabout style, with single and double rumble seat. In appearance it will be distinctly smart and speedy. The 30-inch wheels will be equipped with three-inch tires. Ignition will be well taken care of by the Atwater-Kent Unisparker. Left-hand drive will be provided.

Harvey D. Dunham and Allen Whittemore are officers in the Darby Motor Car Company, for which corporation papers have been filed. Both are well known in St. Louis society and have for a long time been enthusiastic autoists. Mr. Darby, designer, has had a thorough automobile engineering experience; he was recently connected with a well-known maker of light runabouts.

Chas. Templeton, West Liberty, Ia., Using Ford In R. F. D. Work.

Crazy Over Racing.—Reports from the far West seem to indicate that the people on the Coast have gone crazy over automobile races, regardless of kind, place held or speed attained. Following closely upon the announcement of the surfacing of the Ascot track at Los Angeles for races, and a series of races held on the first surface, comes the road-record breaking. These were not confined to any particular course, but as soon as anyone made a record, on the plan pursued at the Donegal (Ireland) fairs, when you see a head hit it, someone immediately went out and broke the new record. This has been fostered by the trade in various ways. For instance, the Chanslor & Lyon people of San Francisco have recently offered a cup for the San Francisco-Del Monte round trip record. This will make a trip of about 200 miles and was to be opened on January 1. No sooner had the cup been announced than half a dozen ambitious road drivers announced their intention of going after it.

Stromberg's Successful Show.—After the show is over and the manufacturer begins to count the cost, the query begins to spring up, "Was it worth while?" The answer from the Stromberg Motor Devices Company, of Chicago, is favorable. Its officers say: "As far as we are concerned, the Palace show was a great success. A great many carbureters were sold direct to owners, and a number of manufacturers heretofore using other makes were intensely interested, going into details regarding the manufacture of the Stromberg carbureter and results obtained by its use. A number of demonstrating cars at the show were equipped with the Stromberg carbureter, and although the weather conditions changed most every day, the carbureter gave universal satisfaction."

National Sales Corporation Announcement.—Signed by Emil Grossman, president, the following announcement comes from this concern: "Owing to differences of opinion regarding the policy of handling the Soot-Proof plug and Automatic wind shield business, we have by mutual consent terminated our sales arrangements with C. A. Mezger, Inc. We will shortly notify you of the name of the wind shield and spark plug that we will be responsible for. Our long-established policy of selling high-grade goods at the lowest possible cost, protecting the trade in their legitimate profits, and making prompt shipments, as well as answering all letters courteously, will be continued as in the past."

Annual Meeting Carrico Motor Company.—This Ohio corporation held its annual meeting January 4, at 208-214 Elm street, Cincinnati. The following officers and directors were elected: President, O. E. Walker, president of the Queen City Forging Co.; vice-president and general manager, F. D. Carrico, formerly general manager of the Speed Changing Pulley Co., and designer of Carrico air-cooled engines; secretary, T. P. Walker, of the Queen City Forging Co.; treasurer, Charles S. Ferris; directors, R. K. LeBlond, of the R. K. LeBlond Machine Tool Co.; Edward Raber, of Raber Bros., hardware merchants, and W. H. Kratz. The increase of business is to bring about factory enlargements.

Toledo Dealers Incorporate.—The automobile dealers of Toledo have formed an association and incorporated under the name of the Toledo Automobile Dealers' Association. Some sixteen dealers have joined and three more are expected to do so. The directors will probably include A. A. Atwood, E. A. Kirk, S. C. Fisk, J. G. Swindeman, A. W. Norris and B. G. Gamble. Another meeting is scheduled for the near future, when officers will be chosen and the final details of the association perfected.

Wanted: American Automobile Agency in Germany.—An American consul in Germany reports that the demand for automobiles in his district is steadily growing and conditions are favorable for a large trade in first-class American makes. He furnishes the names of several local merchants, interested in this trade, who would be glad to correspond in regard to an agency for American vehicles. Address No. 2939 Bureau of Manufactures, Washington, D. C.

Rider-Lewis Motor Car Company's New Plant.—At Anderson, Ind., the new plant of this company is progressing rapidly, and it is expected that it will be ready for occupancy in the early Spring. The Rider-Lewis is a light six-cylinder car of 40-45-horsepower, made in three models, and sold for $2,500. The estimated output for the season is placed at 200 cars.

Gramm-Logan Motor Truck.—Attention is called to the fact that the Gramm-Logan truck exhibited at the Palace show is not in any sense of the word a continuation of the old Logan trucks, the company being entirely different and containing but two men formerly identified with the deceased Logan company. In addition, the details of the product are very different, the name of Logan being retained only for old association's sake.

Removal of an Old New York Firm.—John Lucas & Company, New York City, report that they have moved from Maiden Lane, where they have done business for thirty-seven years, to their new building at 521 Washington street, where they will have more room and a plant more modern in every respect.

IN AND ABOUT THE AGENCIES.

Pennsylvania, Philadelphia.—The J. M. Quinby Company, of Newark, N. J., which has been exploiting the Pennsylvania car in New York City and vicinity, has decided to open up a branch in Philadelphia. An interesting feature of the new move is the decision of the Quinby Company to sidestep the supposed-to-be vital advantages of a "gasoline row" location, and the innovation of opening new quarters in the Freeman Building, at the southwest corner of Twelfth and Walnut streets, will be watched with much interest, especially by those who claim that establishments out of the "select circle" of the "row" invariably wither and die. However, the Quinby reputation and the locality—right in the heart of the high-class shopping district and in close juxtaposition to the Quaker City's blue blood residential section—may prove a winning combination. Manager Thornton, of the firm of Thornton & Fuller, which represented several foreign cars in Philadelphia a few years ago, says the new quarters will be ready for a formal opening some time during the present week.

Franklin Agencies.—The following companies will represent the H. H. Franklin Mfg. Co. for 1909: Providence, R. I., Dauer Auto Company; Rutland, Vt., Rutland Machine & Auto Company; Newburgh, N. Y., George Mason; Scranton, Pa., Standard Motor Car Company; Danville, Va., L. Herman; Portsmouth, O., R. S. Pritchard; Peoria, Ill., Peoria Automobile Company; Danville, Ill., Robert Holmes & Bro.; St. Paul, Minn., Western Automobile Company; Salina, Kan., Saline Automobile Company; Portland, Ore., J. A. Hess & Company; Oklahoma City, Okla., Guy E. Blackwelder; Quitman, Ga., T. A. Bryson Auto Company; Montreal, Can., Wilson Automobile Company.

Continental, Los Angeles, Cal.—The Continental Caoutchouc Company, of New York City, has established an agency on the Pacific Coast with Seeley, Van Zandt & Crackel, 938 South Main street, Los Angeles. This firm will distribute Continental tires, demountable rims, and accessories in lower California.

National, New York City.—The Poertner Motor Car Company, 1876 Broadway, has just been appointed distributer for the National line in this vicinity. This firm will handle these cars exclusively and carry a full stock of parts as well.

Pope-Hartford, Philadelphia.—The West-Stillman Company (Robert Maynes, manager), 612 North Broad street, has landed the local agency for the sale of Pope-Hartford cars.

Reo, Philadelphia.—The Reo Motor Company, of Philadelphia, has been organized to take over the representation

Pierce Agency at Newark, N. J.

of that well-known car in the Quaker City, with headquarters at 338 North Broad street. G. L. Derrickson has been appointed manager of the new agency.

Philadelphia Rubber Tire Company will start business on February 10 at 680 North Broad street, under the management of Saul Levy, formerly connected with the G & J tire agency in the Quaker City.

Cadillac, Orlando, Fla.—Nolan & Rixford have opened a Cadillac branch at Orlando, Fla.

PERSONAL TRADE MENTION.

Stewart McDonald, vice-president of the Moon Motor Car Company, of St. Louis, states that prospects for a banner year for the Moon car were never brighter. Orders for cars have come in so rapidly to the Moon factory that Mr. McDonald was unable to attend the Palace Show and incidentally the fourth annual meeting of the Society of Automobile Engineers, to which he was recently elected a member.

E. P. Blake, the Boston agent for the Jackson cars, has resigned from the retail trade in that city to devote his entire time as distributer of Jackson cars in New England. The Boston agency will be in charge of Harry S. Merry, who will move into the new quarters at 24 Tennyson street, this week.

G. L. Wands, former manager of the Boston branch of the Prest-O-Lite Company, has opened an office at 303 Century Building, Denver, Col., where he will act as branch manager of the Safety Device Company and also the Hoosier Mfg. Company.

S. A. Foster has joined the selling force of the Boston branch of Thomas B. Jeffery & Company, makers of the Rambler. Mr. Foster was formerly assistant sales manager of the Corbin Motor Vehicle Corporation, of New Britain, Conn.

Lawrence C. Fuller, formerly of the firm of Thornton & Fuller, who represented the Simplex and other foreign cars in Philadelphia, has been appointed general manager of the Philadelphia Chadwick branch, 254 North Broad street.

George T. Smith.—At a meeting of the board of directors of the Joseph Dixon Crucible Company, Vice-President Smith was elected president to fill the vacancy caused by the death of E. F. C. Young. W. H. Corbin, counsel, was elected vice-president.

R. R. Drake, formerly associated with the Diamond Rubber Company, has assumed charge of adjustments for the Continental Caoutchouc Company. Mr. Drake will be located at the headquarters, 1788-90 Broadway, New York City.

Frank R. Talbot has resigned as assistant treasurer of the Firestone Tire & Rubber Company, of Akron, Ohio, and will move to Los Angeles, Cal., where he contemplates opening an agency for Firestone tires.

Paul P. Rippien has resigned as general manager of the Autolight and Motor Supply Company, of Philadelphia. Manager Janney, who succeeds him, will take charge at once.

OBITUARY.

Edward F. C. Young, president of the Joseph Dixon Crucible Company, died recently at his home in Jersey City. He had been associated with the company for thirty years and was influential in bringing it up to the present flourishing condition. He will be missed by a host of friends and business associates.

RECENT BUSINESS CHANGES.

Lozier Motor Company, New York City.—The announcement is made that the New York sales office of the Lozier company, having outgrown the present quarters at Fifty-fifth street and Broadway, will on February 1 remove to the Fifty-sixth street corner, occupying the five-story building built for and formerly occupied by the Hol-Tan Company.

Banker Bros.' Automobile Company, Pittsburg, has been reorganized. C. M. Miller is president; R. P. McCurdy, former salesmanager, is now vice-president and general manager, succeeding Arthur Banker; and I. G. Davis is secretary. The company will still continue to handle the Pierce Arrow, Chalmers-Detroit, and Stevens-Duryea cars.

W. H. McIntyre Company announces that by permission of the Indiana Secretary of State it has adopted this name in place of the former one, which was the W. H. Kiblinger Company. The shops at Auburn, Ind., as well as the personnel and policy of this well-known builder of high wheel motor vehicles, remain the same.

K-W Ignition Company, Boston.—J. W. Forbes, the Boston representative of this manufacturer of high-grade ignition apparatus, has removed from 220 Congress street to 70 Long Wharf, where the Boston office of the company will be located also.

Reliance Motor Truck Company is now located in its new factory at Owosso, Mich., where all mail should be addressed. This new plant was designed and constructed especially for the manufacture of motor trucks.

RECENT INCORPORATIONS.

Adams Motor Transfer Company, Boston.—Capital stock, $100,000. Will do a general automobile business. Incorporator: W. E. Eldridge, of Dorchester, who is president and treasurer.

The C. & O. Automobile Company, Jefferson City, Mo., capital stock $6,000, and will rent automobiles. Incorporators: C. H. Duffer and E. E. Reuter.

Wonder Motor Car Company, Kansas City, capital $35,000. Incorporators: E. F. Ettwein, L. A. Ettwein and F. N. Short.

Memphis Taxicab Company, Memphis, Tenn., capital stock $25,000, by F. Farnell, R. H. Allen and W. S. Watson.

BUSINESS DIFFICULTIES.

E. T. Barton, who conducted a tire repairing establishment in Hartford, Conn., has filed a petition in bankruptcy. By his submitted schedules his liabilities are placed at $4,159.49 and his assets at $2,367.20.

TIMKEN GETS DETROIT PLANT.

CANTON, O., Jan. 18.—The importance of Detroit as an automobile manufacturing center is being realized more and more each day by the parts or accessory makers. The latest news from this hustling automobile city is to the effect that another immense plant will be added to the already long list. This latest announcement is to the effect that the Timken Roller Bearing Axle Company, of Canton, the well-known manufacturers of ball bearings and axles, has purchased and will soon occupy with a large force the plant of the Standard Sanitary Mfg. Co., on Clark avenue, the whole of which will be devoted exclusively to the manufacture of front and rear automobile axles. The plant occupies about three acres. This plant, devoted exclusively to the manufacture of automobile axles, will probably be the largest plant of its kind in the world.

The plant in Canton will be retained for the manufacture exclusively of Timken roller bearings, the steadily increasing demand for which has made it necessary to have larger manufacturing facilities.

HOW 'TIS DONE IN NORTHWEST.

MINNEAPOLIS, Minn., Jan. 18.—The Pence Automobile Company believes it can say without fear of being disputed that it is the largest automobile establishment in the United States engaged exclusively in the wholesale and retail automobile business. The building it will soon occupy has a frontage of 75 feet by 160 feet deep, eight stories and a basement.

The first or ground floor will be the offices and showrooms; the second floor will be the garage; the third floor stockrooms; fourth and fifth floor storage; sixth floor paint shop; seventh floor metal, woodworking and top departments; eighth floor machine and repair shop. The building will be constructed of reinforced concrete throughout and will have the most modern appliances and conveniences of every kind. The capital stock has just been increased from $25,000 to $250,000.

Pence Automobile Company Building.